

AIRFIX

magazine

SEPTEMBER, 1966

FOR PLASTIC MODELLERS

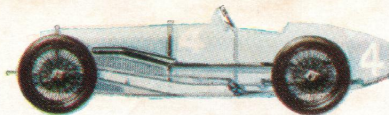
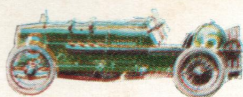
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IN
THIS
ISSUE

Beam Engine, veteran car, and Matador kits
Loco valve gear, bus and Scout conversions



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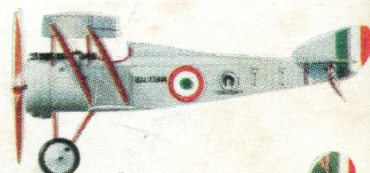
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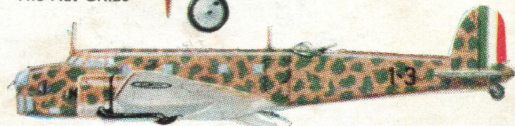
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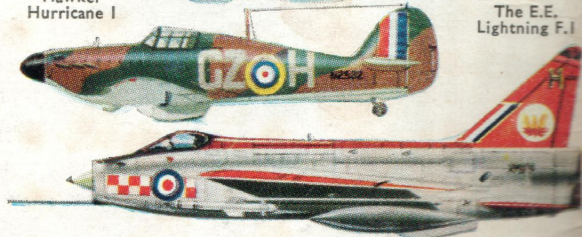


The
Messerschmitt
Bf 109G



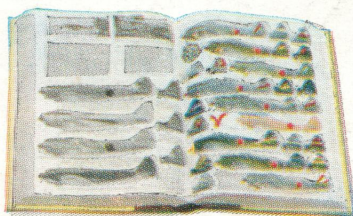
The
Hawker
Hurricane I

The E.E.
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- No. 15 Heinkel He 111H
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- 93 Bristol Blenheim I
- 98 Gloster Gladiator
- 99 Focke-Wulf Fw 200
- 117 Boulton Paul Defiant (next month)
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AIRFIX *FOR PLASTIC MODELLERS* **magazine**

Volume 8, Number 1

September, 1966

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COVER PICTURE

This typical goods yard scene—which could easily be reproduced in miniature—features the Fiat 625N light truck, latest of the Fiat line specially designed with low platform height, forward control, long cargo space, and low fuel consumption, to make it particularly economical for local carrier work and light deliveries. (Illustration courtesy Fiat spa.)

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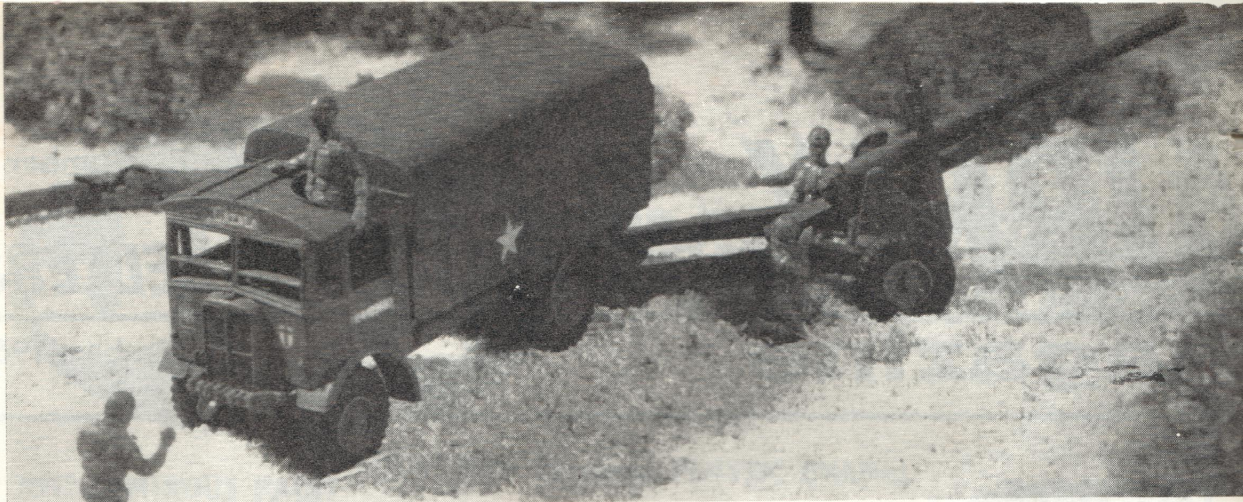
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Above: The new Airfix Matador moves its 5.5 inch gun into firing position. Price of the kit is 2s. 3d.

AEC Matador, old-time car and beam engine

FOUR new kits that include an army Matador gun tractor and gun, a working model Beam Engine, a 1:32 scale De Dietrich veteran car, and the first Dog Fight double set to include World War 2 aircraft, are the latest releases to please all tastes from Airfix.

The Matador kit includes the 5.5 inch gun which this famous army vehicle was designed specially to tow and the set is guaranteed to bring pleasure to the large Airfix following of military modelling enthusiasts. To the usual OO/HO scale, the kit is replete with detail and includes the recoil springs of the gun, correctly treaded tyres for both gun and the Matador, a finely engraved AEC radiator grille, tow bars, complete transmission layout, and all other features of the full-size gun and Matador.

The 5.5 inch gun, like several other British weapons of World War 2 was in the design stage to replace obsolete first war weapons just before the start of World War 2. It first went into service in 1941 in North Africa and was soon equipping medium artillery regiments on all fronts as the standard medium gun/howitzer.

The AEC Matador has a legend of its very own. Designed specifically as a gun tractor, it was powerful enough to be adapted for several other roles not envisaged at first.

It was as a gun tractor, however, that the Matador was best known, and this had a capacious body with transverse seats at the front end for the gun detachment.

The Airfix kit which captures the character of the real vehicle costs 2s 3d.

WORKING BEAM ENGINE

A NEW series of Airfix kits is started by the working model of a Beam Engine which is also released this month, in kit form. This entirely original range is to be known as Museum Models and will set out to reproduce in miniature fundamental scientific and engineering principles.

No model could be appropriate to start this range than a Beam Engine, since steam power was perfected in Britain by Thomas Newcomen in the early eighteenth century, and

NEWS FROM
AIRFIX

The world's greatest value in construction kits

the principle was further refined by the engineer James Watt. It was in 1765 that Watt realised that he could make the basic Newcomen steam engine more efficient. At this time, steam was condensed inside the cylinder by a jet of water, thus creating a partial vacuum which, in combination with atmospheric pressure, and the momentum of the flywheel, returned the piston to the bottom of its stroke. Watt's idea was to add a separate chamber in which a vacuum could be maintained, and to open this to the cylinder when the steam condensed was to be condensed.

After his invention of a separate condenser, Watt began to work on a design for obtaining rotary power from the steam engine, which up to now had only been used for pumping. His first rotary engine was built at Soho, Birmingham, in 1782. In this year, the double acting engine was patented, in which steam acted alternately on both sides of the piston giving twice the power from one cylinder. In 1784, Watt invented his parallel motion which held the joint between the piston rod and connecting link in a straight line.

Popularly known as the Beam Engine, this is the type modelled by Airfix; the miniature Beam Engine is, in fact, based on an early 19th century machine which incorporates a slide valve and Watt's Parallel Motion. More than 70 parts go to make up the Airfix model, and it is moulded throughout in an attractive shade of dark green. A major feature of the model is its motor, a small battery powered

AIRFIX magazine

type which fits inside the base. A U11 battery (not supplied in the kit) is needed to power the model and the exact operating sequence is reproduced at the correct speed. A drive shaft is provided and the model can really be used to drive other models.

Though complex in appearance, the kit is not difficult to assemble with the aid of a very clear instruction sheet. Contacts and wire are provided, making this kit into one of the most instructive and novel yet produced. Price is 11s 6d.

FAMOUS OLD TIMER

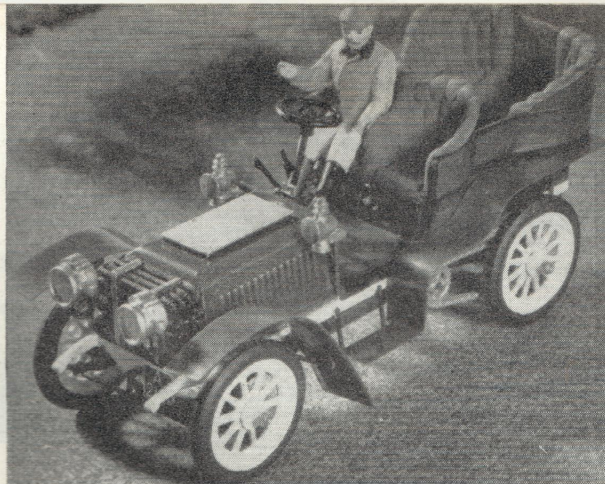
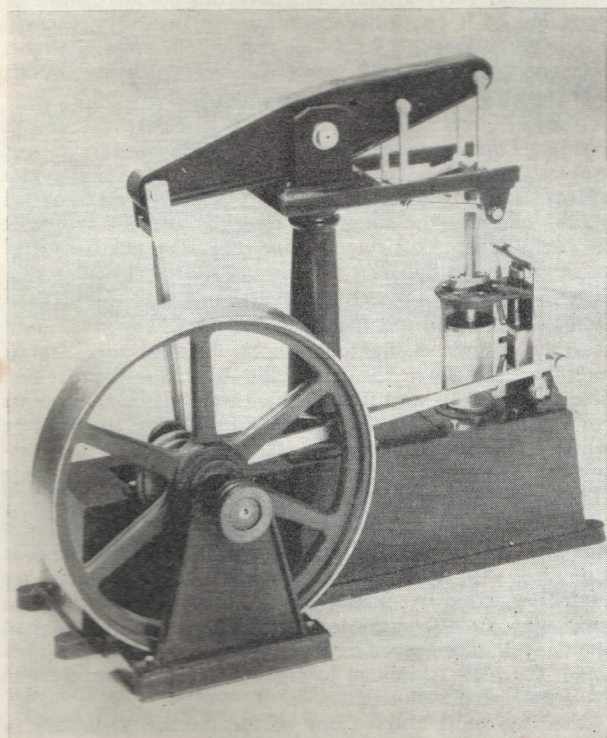
ONE of the most admired of all preserved veteran motor cars is the 1902 De Dietrich owned by the Montagu Motor Museum and often seen on display. This famous car has now been added, in model form, to the Airfix range of 1:32 scale famous car kits, and model car fans will be delighted with the realism achieved. The model has 82 parts with such excellently detailed features as dummy springs, external radiator, chains, and driver. In fact, this model must be acclaimed as one of the most realistic yet and the stately character of the model makes it a 'must' for a collection.

The real car was one of the first light racers, and entered for the great Paris-Vienna race of 1902. Shortly after the race, the car was brought to England and a tonneau body was fitted. This body is detachable, enabling the car to be converted from a tourer to a racer—a real life conversion! The Airfix model costs 2s 3d.

DOG FIGHT DOUBLE

ALSO released this month is the first kit in the Dog Fight Double series to include aircraft of World War 2. This kit features the already well-known Airfix Beaufighter along

Below: The magnificent Airfix Beam Engine, first of the Museum Models.



Above: The attractive new 1902 De Dietrich. The kit costs 2s 3d.

with the Luftwaffe's Messerschmidt 109G-6. A combined instruction sheet plus individual transfer sheets are included, and there is a stand enabling both models to be displayed in typical 'dog fight' positions. At 5s this boxed set is excellent value for aircraft modellers.

AIRFIX KIT PRICES

THE recommended retail prices of all Airfix plastic construction kits were revised from August 1, 1966. The following list gives new prices applicable in the UK from that date:

Series 1	2s 3d	Series 6	11s 6d
Series 2	3s 6d	Series 7	14s
Series 3	5s	Series 8	16s 6d
Series 4	7s	Series 9	19s 6d
Series 5	8s 6d	Figures	2s 3d

MORE PAGES, MORE FEATURES!

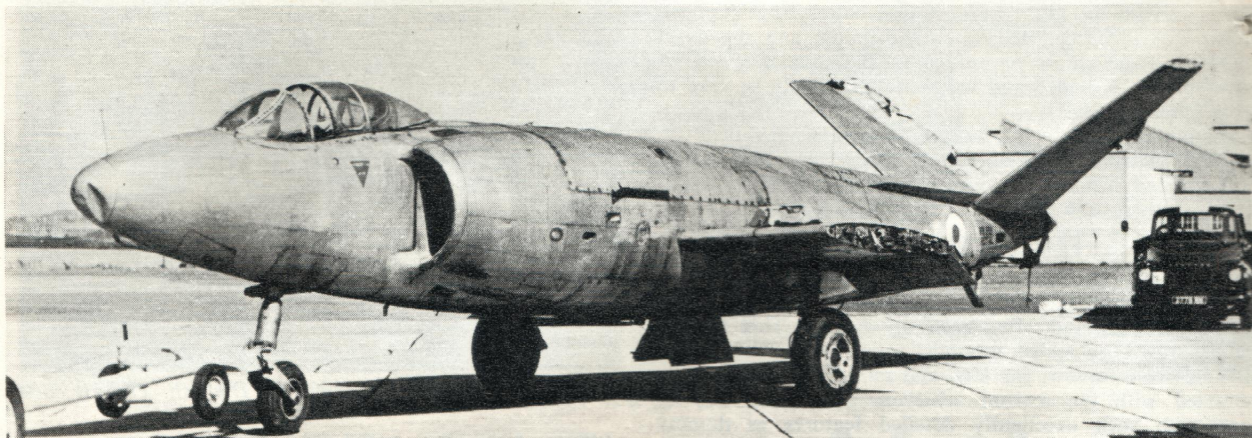
WITH the first issue of Volume 8, and AIRFIX magazine's seventh year of publication, we are happy to announce a substantial increase in editorial content starting with our next issue, dated October 1966. Eight more editorial pages and, consequently, many more articles, will appear in all issues from October onwards.

This will represent a 25 per cent increase in the number of pages, and will enable us to offer still more in the way of practical conversion features, in addition to exploring pastures new and covering subjects which lack of space has forced us to omit in the past. Aircraft, military and model ship enthusiasts can expect larger helpings in future, but we shall also be continuing with all our established popular features, plus much more coverage of 'minority' interests. We also want to hear from you, the reader, and intend to give more space than hitherto to readers' conversions.

It is inevitable that these extra pages will cost more money and we are, therefore, raising the price to 2s per copy from the next issue. This modest increase, however, is more than offset by the additional pages and we will, in fact, be offering better value at the new price than at the old. And AIRFIX magazine will still be cheaper than the least expensive plastic kit!

Existing magazine subscriptions will be honoured at the old price until they become due for renewal.

ORDER YOUR OCTOBER COPY NOW—2s from your newsagent or model shop.



The Supermarine 508, VX133, seen at Culdrose in June. The aircraft is slightly damaged through its constant use by the School of Aircraft Handling. The wings are still in existence though stored separately from the fuselage. (R. L. Ward photo)



WITH the run-down of the aircraft industry and the consequent lack of new aircraft types, air shows these days tend to be 'the mixture as before'. It is, therefore, more than interesting to find a show which produces something out of the usual as regards new or rare aircraft. In this hope, spotters in their hundreds take themselves round to all parts of the country during the season.

Of the many air shows I have seen in the last three or four years, those staged by the Royal Navy seem to produce some of the rarest and most interesting aircraft either in the static park or in the flying display. The Navy seem to understand what the spotter wants to see, but on the other hand even they could go further.

I give as my example the recent Air Day at Culdrose. Here the Navy produced four classic examples out of the hat apart from laying on a first class flying programme. On show there were Skyraider WT121, Avenger XB446, Firefly VH127 and Seafire 47 VP441, but hidden away in the hangars were another Skyraider, WV106, HMS *Protector's* old Whirlwind, XA869, and the rarest item of the lot, the now wingless Supermarine 508, VX133.

The latter is now in a slightly bent condition. It is used by the School of Aircraft Handling to teach naval airmen the gentle art of moving large aircraft around cramped carrier hangars and flight decks. Still in its original silver finish, the aircraft has had the main parts of the wings

removed but these are still in another part of the hangar area at Culdrose and there appears to be little chance that they will be rejoined to the fuselage.

The Avenger on show was an extremely interesting one. Known to have been flying up to January, 1963, when it was photographed leaving Culdrose to go into retirement at Abbotsinch, it somehow returned to Culdrose and is now in a very good state of preservation.

This aircraft, like the Skyraider, has been repainted since its retirement and it is now in RAF blue-grey. Apparently, as all American aircraft around this period were delivered under the MDAP scheme they had to be left in their original 'midnite blue'. When aircraft were struck off charge and came to be repainted they came under the same scheme as other Royal Navy aircraft and have this colour instead of the original. If one looks carefully at many Navy aircraft, one will find that the RAF blue-grey colour appears almost everywhere nowadays. The exceptions are the fighter aircraft types such as the Sea Vixen, Scimitar and Buccaneer.

Another interesting aircraft seen at Culdrose was a Buccaneer sporting a new paint scheme. This was an all-over grey which differs from the all-white or grey and white aircraft seen to date. The aircraft, an S2, was serialised XT285 and had the codes 653 on either side of the nose. It came from Lossiemouth and the characteristic LM appeared on the fin.

Of topical interest for the plastic model maker was the Whirlwind HAR1 which was aboard HMS *Protector* until recently. I noticed slight differences between this aircraft and the example in the Airfix kit. First, the top decking colour was black, and second, there were attachment points for Luneberg (radar) reflectors on either side of the fuselage while a standard helicopter winch was carried on the starboard side. Unfortunately it was too dark in the hangar for effective photography.

It would appear that Whirlwind HAR9, XL899, which at the moment is used by the search and rescue flight at Culdrose, will replace the earlier marks of Whirlwind on HMS *Protector*. The reason for this assumption is that this particular aircraft displayed in the static exhibition had the Penguin motif taped on to the starboard side. The Whirlwind 9, which is similar to the RAF HAR10 conversion from the piston engined mark 7.

Culdrose must also be one of the last FAA stations to

operate the aged Dragonfly. Two examples were seen, and one of the serials was VZ965. Apart from the Supermarine 508, the Aircraft Handlers use time-expired Gannets and Seahawks. Among the latter were one or two that formerly belonged to the Fleet Requirements Unit at Hurn and which are now being replaced by Scimitars. In most cases these Seahawks had their serials painted out and large codes with the letters SAH and a number in white on the nose. They were painted grey over-all except for the ex-Hurn aircraft.

JAPANESE EXECUTIVE

ONE of the more interesting executive aircraft at present being offered to the European market is the Mitsubishi MU-2. The first example to be seen in England recently arrived for demonstration flights at Leavesden, near Watford.

Produced by the oldest, and probably the largest, airframe manufacturer in the Orient, the MU-2 is a high wing, turboprop powered, seven-seat executive aircraft aimed at the market mid-way between the six-seat Aztec and the eight-seat Queenair classes but with a top speed that will equal either and with short field capabilities which will enable the aircraft to be operated from almost any airfield in Europe or America. The cruising speed is 310 mph at 10,000 feet and the take-off run in the region of 400 yards.

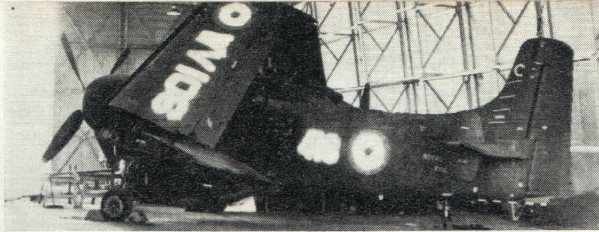
Mitsubishi confidently hope to sell at least 100 of these aircraft in the American market each year whilst in Europe they hope to have sales for about ten. Shackleton Aviation Ltd are the British Isles distributors and the aircraft will be manufactured in Germany from parts and materials sent from Japan by the Rhein-Flugzeugbau. The first European assembled example should be ready for delivery by the end of this year and deliveries in the UK should be able to be completed by 1967. The price to UK customers is about £120,000.

The German registered demonstrator which was shown



Top to bottom: The Lossiemouth Buccaneer which took part in the Culdrose flying programme was an S2 painted dark sea grey overall. The serial is XT285. Increased span, lengthened fuselage and reshaped engine nacelles are characteristic of the DC-8 Super 62. It carries 189 passengers over ranges of up to 6,000 miles. German demonstrator, D-IBUF, the first Mitsubishi MU-2 to visit the UK on show to the press at Leavesden last month. (192 Group photo).

September, 1966



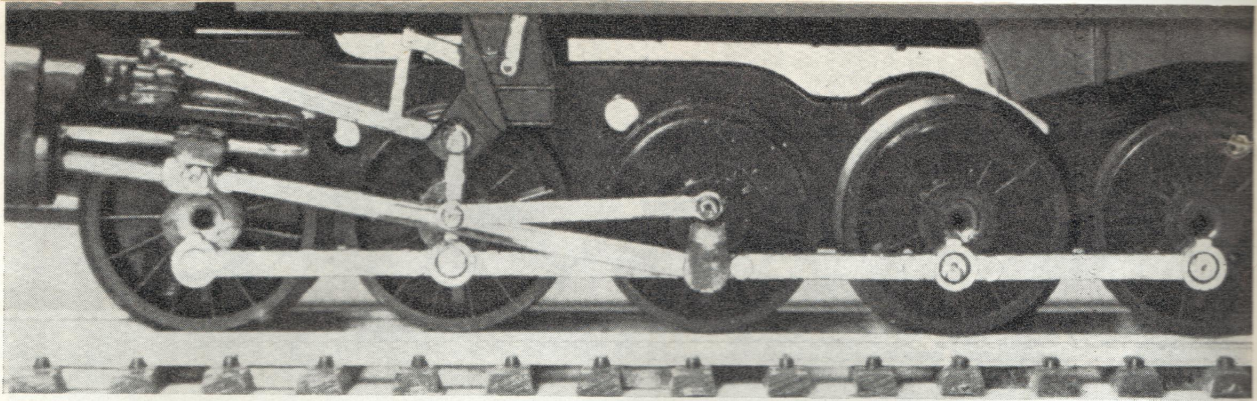
Top to bottom: The Skyraider that the public did not see. WV106 owned by the Historic Aircraft Preservation Society is being repainted in one of the maintenance hangars at Culdrose. (R. L. Ward photo). One of the new Whirlwind HAR9s, XL899, which is believed to be replacing the Whirlwind HAR1s on board HMS Protector. Protector's badge is seen on the nose, temporarily stuck in position by masking tape. (R. L. Ward photo). The Avenger preserved by the Navy at Culdrose is an electronics counter measures machine. It flew for the last time in January, 1963. The serial is XB446. This Firefly is also preserved by the Navy.

at Leavesden appeared to be rather noisy which was a little disturbing to passengers. It also appeared to be very dark in the cabin interior when the aircraft was on the ground. D-IBUF's finish was however excellent and the power of the turboprop engines plus the reverse pitch on landing gave an exceptional feeling of power. This latest creation from the company who made the Zero fighter seems to be destined for a long and useful career in executive aviation.

SUPER 62

THE world's longest range commercial jet transport, the DC-8 Super 62 was unveiled at Long Beach, California, recently and should have made its maiden flight by the time these words are read. The Super 62 is the newest member of the Douglas range of commercial transports and will herald the arrival of the air bus type of aircraft of the 70s. It has seating for 189 passengers and luggage and can fly 6,000 statute miles without refuelling.

Apart from a lengthened fuselage and wider span wings the Super 62 has redesigned engine pods to house the four Pratt and Whitney JT3D-3B turbofans. The reduced drag obtained from the reshaped pods adds considerably to the increase in range.



BASIC RAILWAY MODELLING—by Norman Simmons

Valve gear for Airfix locos

Fifteenth of a regular bi-monthly series catering specially for newcomers to model railways

JUDGING by the number of assembled Airfix and Kitmaster locomotive models I have seen with gummed up wheels and motion, it would appear more than a few modellers find difficulty in making these models work. I don't mean motorising, just simply the matter of making the wheels go round.

In many cases it is simply that the builder has rushed the job without reading the instruction sheet carefully. This is a pity, for as instruction sheets go Airfix more than hold their own and I consider they set a very high standard. However, it is to be expected that one or two ideas come to mind that one cannot expect to find in every instruction sheet. For one thing, techniques vary and what suits one modeller may not necessarily suit another. But as the valve gear and motion works satisfactorily on all my models, some of my own personal ideas might be worth passing on.

Should the point fail to be noticed, I cannot emphasise too strongly to check every stage of assembly thoroughly before cementing. This applies particularly to the chassis where each wheel half should be checked thoroughly to see that it revolves without any trace of friction. Any tight spots should be eased with fine sandpaper or a fine file. Make sure there are no stray pieces of flash on the backs of the wheels or on the treads and flanges. The moulded part

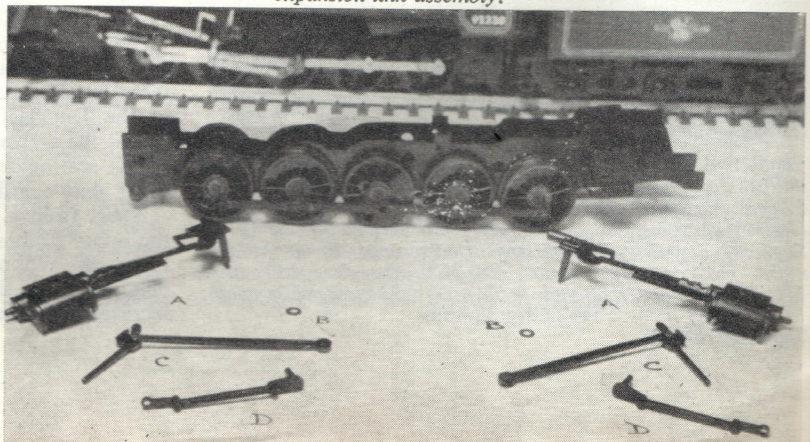
numbers can sometimes offend in this way and should be removed as soon as the part has been positively identified and there is no risk of getting it mixed up again.

When cementing wheels together, I usually place cement in the hole in the axle before this half is placed in the chassis. Otherwise I find that I can sometimes be careless with the tube of cement when both wheel halves are placed in position before cementing and there is more of a risk of getting cement on the chassis frame. Provided the cement is only inside the hollow locating hole there is no danger of it touching the sides of the axlebox when the wheel is placed in position. Should any cement stray where it shouldn't, wipe it clean and leave it to dry thoroughly before making a second attempt.

When bringing the two wheel halves together make sure they are central between the frames so that any cement oozing out is less likely to come in contact with them. If there is any surplus cement it can be carefully and evenly spread around the face of the axle to guard against the possibility of it running down the axle unnoticed before it sets. Before the cement sets, check that the wheels are to gauge and in line with each other so that they revolve without any wobble. Stand the chassis upside down while the wheels are drying to ensure no weight distorts the axles and check them from time to time to make sure they are setting correctly.

When you are satisfied the wheels and axles have dried out and are running freely the coupling rods can be fitted. Cement has to be applied very carefully at this stage. Too much and it will spread to other parts binding everything solid when it dries. Too little and it may dry out before you have had a chance to insert the crank pin. It is better perhaps to err on the too little side and you can help minimise the chance of the cement drying out by being as quick as possible when it comes to inserting the pin. Four-coupled locomotives are easier since the coupling rod can be swung clear after the first pin has been cemented and only one pin needs to be done at a time. Locomotives with six or more coupled wheels present a

Below: Valve gear parts set out and lettered as follows: A—cylinder/slide bar. B—washer. C—crosshead/connecting rod assembly. D—eccentric crank/eccentric rod/expansion link assembly.



problem, though after the first coupling rod has been placed in position all the crank pin holes on the other side will be found to be in line and all need to be done at the same time. Putting all the pins in place before the cement dries can be quite a nerve shattering business!

The valve gear on *Evening Star* is the one that gives most people headaches. It can be a tricky little problem but I think you will find that my own method which deviates from the instruction sheet makes it very much easier. What's more it is more likely to result in a free running model. One glance at a completed model and the plan view of the valve gear drawn on this page and you will realise that there is very little clearance between each moving part. Any projections, traces of flash or binding at the back of the various rods and the motion simply won't work. The object of the exercise is to ensure that both sides of the motion are as clean as possible and that they are given as much clearance as possible.

Begin the mainframe assembly as in the instruction sheet through stages 1 to 7. Check that there are no rough spots on the backs of the coupling rods, face of the wheel centres, inside the recessed holes of the coupling rods, and round the heads of the crank pins. If these are all free the wheels and rods should revolve freely. At stage 8 my ideas differ from the

instruction sheet and instead of building up the valve gear step by step as described I prefer to make it through a series of sub-assemblies.

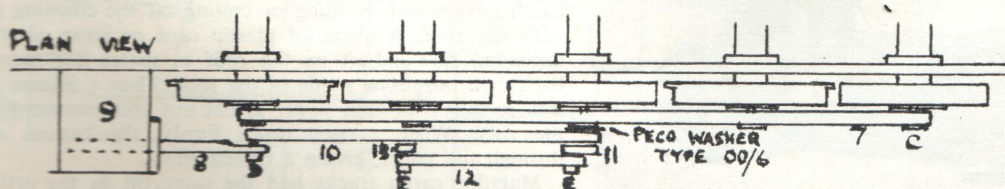
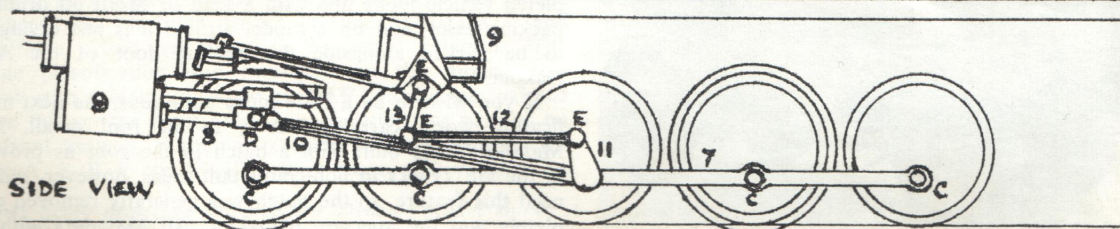
First assemble the crosshead and connecting rod with pin D (not pin E as it is shown in one place on the instruction sheet drawing). Do this *before* fitting the crosshead to the slide bar. You will find this much easier and most important of all, it is possible to chop off and file away any surplus pin at the back of the connecting rod. Make this part as smooth as possible as any roughness here

will foul the coupling rod when the wheels are in motion. It is perfectly easy to slip the crosshead on to the slide bar after assembly to the connecting rod. Simply swivel the parts through 90 degrees, hook the crosshead in place on the slide bar and swing the connecting rod back in line.

Now make an assembly of the eccentric crank (part 11), eccentric rod (part 12) and expansion link (part 13). Pins E are pushed through from the fluted side of the eccentric rod into the eccentric crank at one

Continued on page 13

Key to drawing: The letters and numbers refer to the Airfix part numbers as follows: C—crank pins (for the sake of clarity not all are shown on the plan view). D—crosshead/connecting rod pin. E—eccentric crank/eccentric rod/expansion link pins. 7—coupling rod (7A on opposite side). 8—crosshead (8A on opposite side). 9—cylinder and slide bar (9A on opposite side). 10—connecting link (10A on opposite side). 11—eccentric crank. 12—eccentric rod. 13—expansion link. Drawings full-size for model.



MATADOR VARIANTS

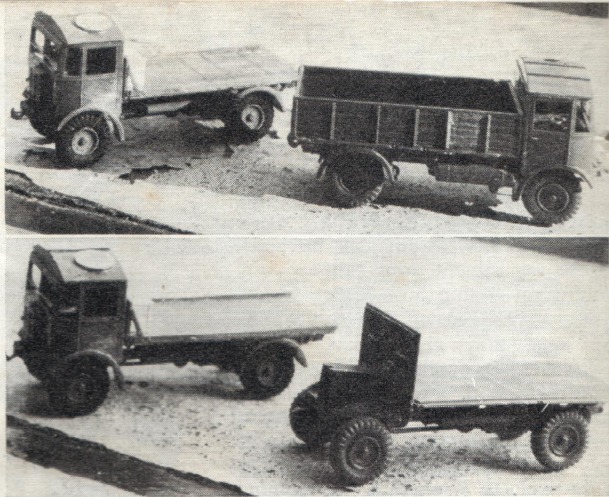
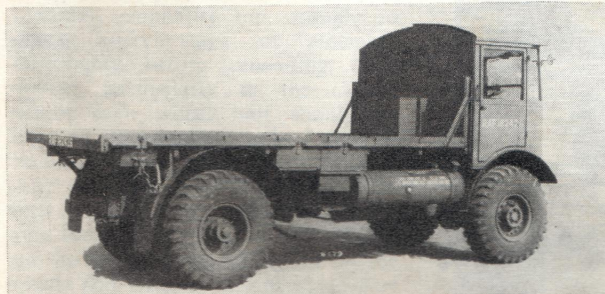
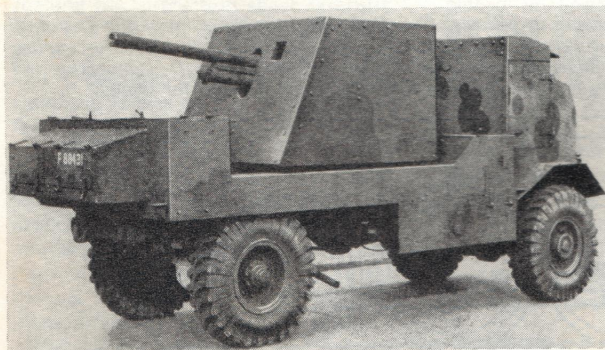
FROM THE NEW AIRFIX KIT

Military modelling

by C. O. ELLIS

WITH the new Airfix AEC Matador and 5.5 inch gun kit to hand, the keen military modeller is presented with an ideal basis for a big transport fleet to look after the logistic needs of miniature armies. Matadors and their derivatives were widely used by the British throughout World War 2 and for many years after. Indeed, many Matadors remain in service to this day, albeit mostly with the Territorial Army, though a small number are still to be seen with all three services. In addition, 'demobilised' Matadors are seen regularly in commercial hands as prime movers, wrecker trucks, loggings wagons, and just plain load carriers. We'll be taking a look at model possibilities with non-service Matadors later, but I'm starting this month with some military and RAF vehicles.

Below: This view of the Deacon shows the cab shape, gun mounting, and all other details. **Bottom:** RAF182426, an example of the flat truck in overall dark earth finish. Note that tool-box is off-centre.



Top: The Matador platform truck, showing the tool-box behind the headboard and blanked off hatch, and the Matador 10 ton cargo truck with modified sides and hatch coaming removed. **Above:** Another view of the flat truck plus the modified cab and body which forms the basis of the Deacon conversion.

Did I say RAF? Yes, the Matador is also the answer for those many aircraft modellers who have requested airfield accessories in 1:72 scale; the RAF were big users of Matadors and no model airfield will now be complete without a full complement. In fact, the first two conversions described here—a Matador GS flat truck and a 10 ton GS cargo truck—were used more widely by the RAF than the army.

Easiest of all Matador conversions is the 10 ton cargo truck as this has a body very similar to the artillery tractor body supplied in the kit. The principal difference was the absence of doors and the model is made up exactly as described in the kit instructions, except that the body sides are modified before assembly by carefully cutting away the door handles, panel and hinge detail and filing this section smooth on each side. When this has been done, use a craft knife or small nail to scribe in plank detail matching the moulded planking on the remainder of the side. It is essential to use a steel ruler or similar straight edge as a guide for scoring. Having done this, complete the model according to the instruction sheet once more. The completed vehicle looks fine with a load of Merit oil drums or packing cases, and on a model airfield it is just crying out to be parked alongside the loading door of the Airfix Dakota.

If you wish to be a little more ambitious, the next modification worth carrying out is to the roof detail. Most Matadors were built with a hatch in the roof as provided in the kit. Trucks in non-combatant areas, however, did not need this feature, so the hatch was generally removed completely and the aperture plated in. All Matadors with the arched roof of the Airfix model had a canvas surface stretched over the roof battens. In the case of a vehicle with the roof aperture plated in, the canvas was extended to cover the full width of the roof. In model form, the hatch is removed by filing or cutting off the coaming flush with the roof. A sliver of plastic card or scrap plastic is cemented fore-and-aft on the roof to match the moulded batten on the driver's side of the roof. Then a 32 mm x 16 mm rectangle of thin paper is cut out and cemented over the roof. When pressed down firmly, the battens show through the paper, giving a ribbed effect.

Matador cargo trucks had the same tilt as the artillery

AIRFIX magazine

tractor version. In addition to the RAF, the Royal Engineers, RAOC, REME and RASC employed the Matador in this form. The RE Matadors were also used as prime movers, hauling bulldozers on trailers. The RE blue square can be taken from the Airfix Churchill kit if your model is to serve with the engineers.

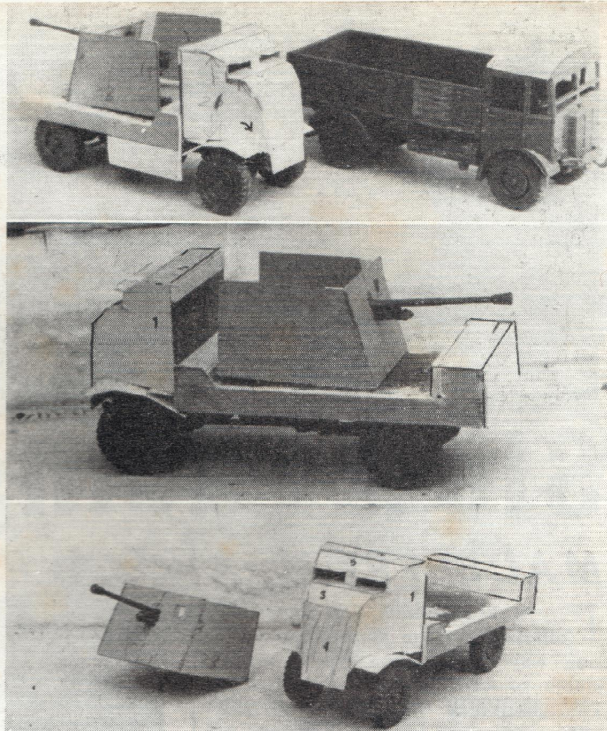
The Matador flat truck is also an easy prospect from the Airfix kit. This model is built entirely to the Airfix instructions except for the body. The sides are omitted completely except for the headboard. With the body floor and headboard in position, a ridge is left round the platform edges and this is filled by cementing either the lower strake sawn from the discarded body sides, or else a 2 mm strip of plastic card, along the edges of the floor to form the characteristic flat truck beading. At the rear, a smaller strip of scrap plastic is cemented along the edge to give a flush finish.

With the body complete, two 7 mm long supports are required—cut from plastic card strips or scrap plastic—and these are cemented against the headboard on each side, angled at 60 degrees. A tool-box was fitted on to the platform body containing chains, chocks, and other items needed to secure heavy loads. In model form this consists of four pieces of card or plastic card cut to make a box measuring 11 mm wide x 6 mm high x 7 mm deep.

Finally, the roof can have the same modification as already described for the cargo truck, but I rang the changes slightly and blanked off the hatch instead of removing it completely; this is yet another variation seen in Matadors. In this case, the canvas cover on the roof measures only 16 mm x 16 mm and fits over the driver's side only.

These GS platform trucks were seen on all airfields and were also used by airfield construction companies in the combat zone. They were—and still are—often seen carrying crated aircraft components or aero-engines. I had a spare radial engine left from a plastic aircraft kit and this makes a realistic load for the model when mounted in a trestle made up from plastic scrap.

If you are making these two Matador models for airfield lay-outs you'll need to know that RAF vehicles during World War 2 were painted dark earth overall and often had a camouflage pattern of very dark grey, almost black, patches with prominent lobed edges like a cumulus cloud. The Deacon picture shows this style, in fact. Some typical numbers for platform trucks include RAF118875 and RAF97451. They had these in the usual positions. The bridge classification disc (moulded on the model) was yellow with a black 12, while an RAF roundel was painted above this on the front only. A code letter was painted on the front as well, but in no specific position. Samples include A, S, B/3, etc. Finally, don't forget that vehicles on



Top: The Deacon conversion almost complete seen with the cargo truck Matador. Note 'canvas' covered roof of latter. Arrow on Deacon shows position of plastic putty filling gap at bottom of cab side. **Centre:** The Deacon again shows heightened cab and ammunition boxes full-width of vehicle. **Above:** Model with mounting removed. Note plastic putty fills gaps on platform. Numbers on cab show order of assembly.

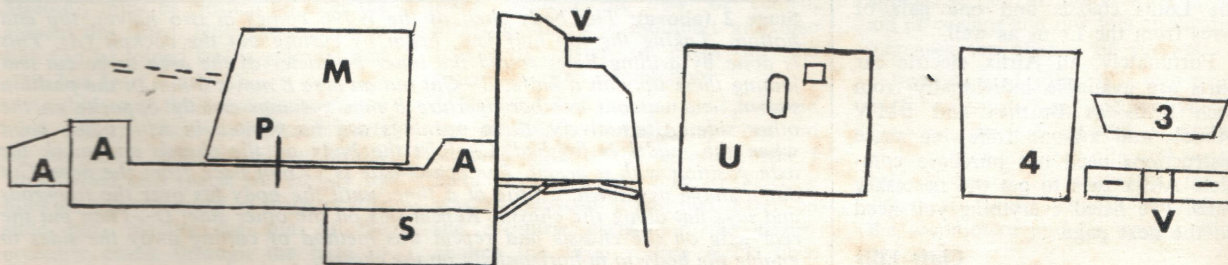
RAF stations almost invariably had their mudguards edged in white as blackout reflectors.

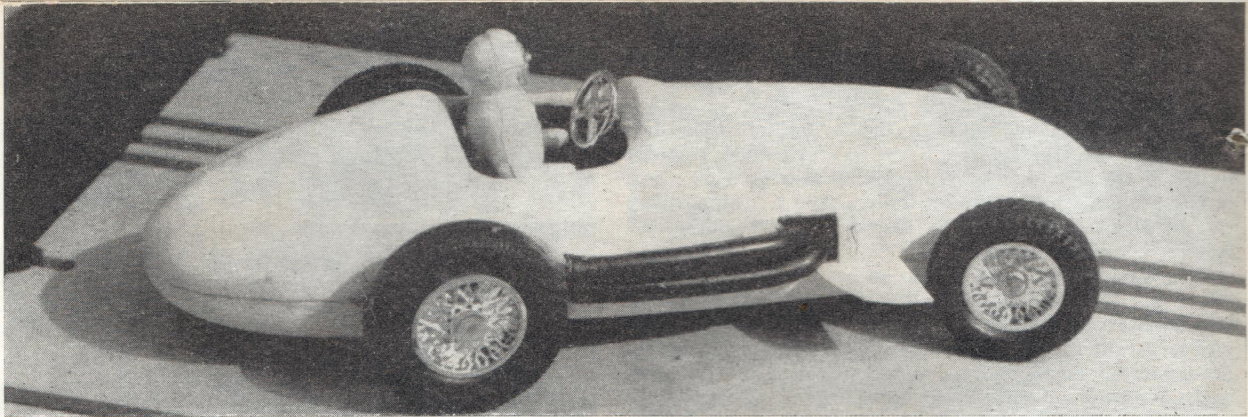
And so on to our final and most ambitious model this month, the Deacon self-propelled 6 pdr anti-tank gun of 8th Army fame. This was basically an armoured Matador chassis with the gun in a limited traverse turret, mounted on the rear platform. I've included a scale drawing and this with the picture should show the general idea. It looks quite complicated, I admit, and is not a beginner's model. It should, however, be within the capabilities of most enthusiasts, and the task is much simplified if the model is made in three stages, ie, the body, the cab, and the gun mounting.

The chassis is first made up as shown in the picture so that the cab back, engine cover and body floor are all in position. The mudguards must, however, be sawn or cut from the cab floor so that only the inner sides remain.

Continued on page 30

Below: Scale drawings full-size for Deacon model show: A—Ammo boxes, etc, (box at rear 22 mm wide). M—Mounting sides (2). P—Pivot. S—Shield on right side only. V—Visors can be set open or closed. U—Gun shield. 4 and 3—Noseplates (numbers refer to picture above). V—Vision plate with visors.





Slot racing Mercedes

MADE FROM AIRFIX PARTS PLUS W196 BODY

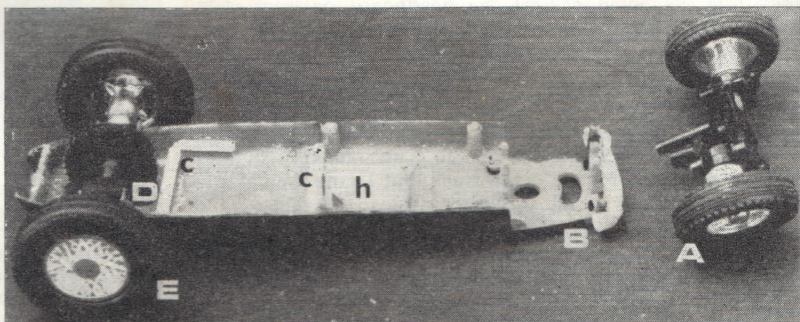
IF you are looking for something 'different' in the slot racing field, one way of building up a varied stable of cars is to motorise static kits, combining the bodies with suitable mechanical units and chassis in the manner frequently described in our Wheelspin series. But there often comes a time when no kit is available for the particular model you would like and some other source of materials must be found.

This latter requirement, plus the need for simplicity, indicated the use of an Airfix chassis and a body that matched it. Consulting the various model catalogues I found that JNT Ltd, of 2 Goodramsgate, York, produced a vacuum-formed body for the legendary Mercedes-Benz W196.

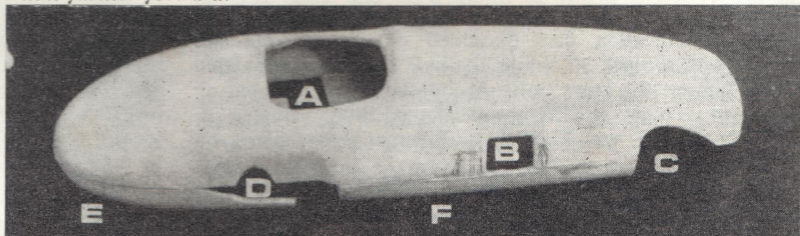
However, it was not simply a matter of putting this body on any Airfix chassis as I soon discovered. The W196 was quite a monster, bigger than the Auto Union chassis that I had available, and the wheelbases didn't match in any case. A little measuring of other chassis plans soon showed that the Airfix Lotus was just right for wheelbase but hopelessly unsuitable when it came to the wheels. Hence it was necessary to find some bigger wheels, and the finished model eventually became a hybrid with Auto Union wheels in the Lotus chassis and one pair of tyres from the Lotus as well.

Fortunately, all Airfix electric car parts are available individually from such firms as Beatties and BMW Models and anyone following these instructions need not purchase complete Airfix cars to get the necessary parts. I've listed everything you need on the next page.

Chris Ellis

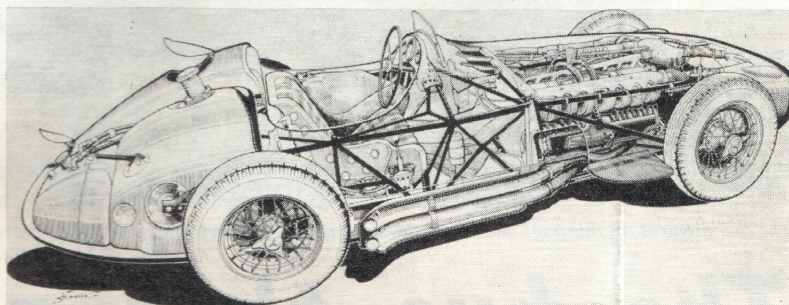
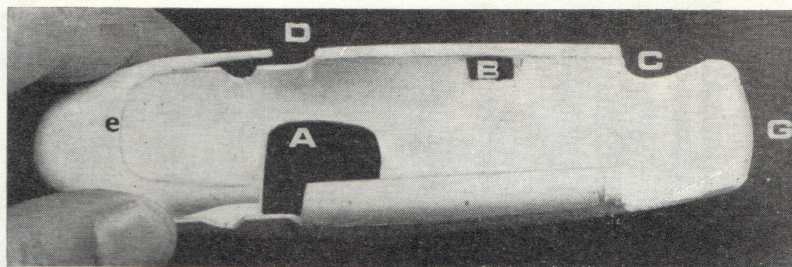


Stage 1 (above): A—Take the Auto-Union front axle assembly and change its tyres for the Lotus rear tyres. Check the fit in the axle supports of the chassis pan, track rods forward. B—Saw off the chassis nose to leave only 1 mm of plastic ahead of the leading axle support. (The white plastic in the picture is the lower nose of the body shell. It should not be fitted until the remainder of the model is complete.) E—Take the Auto-Union rear axle assembly and note that the contrate is too deep to fit. This is overcome by cutting out a slot (D) large enough for the axle to rest correctly in the supports. Slot should be approximately 15 mm x 8 mm in size and can be cut by drilling several overlapping holes and hacking out with a craft knife. When the rear axle fits correctly, check the Airfix motor for correct mesh. It will be found that the ridges designed to support the motor will now no longer fit and these should be filed away completely and replaced by new supports (C) approximately 2 mm further forward.



Stage 2 (above): The body shell of the W196 comes in two halves, top and bottom. Taking the top half first, begin by cutting out the cockpit (A). This is done by drilling holes round the inner perimeter of the area to be cut and joining these up with a knife. B—Cut out an area 8 mm x 6 mm in the position shown, and cut out another aperture 8 mm x 4 mm exactly opposite on the other side. Alternatively, these openings can be painted in with black paint when the model is finished. C—Rest the body on the chassis and mark the axle position with a pencil. The actual axle is 15 mm back from the nose. Cut out a shape as shown, a little at a time, until the body fits over the trackrods and lays flat along the chassis. Repeat this on the other side. D—Then put the rear axle on the chassis and repeat this method of cutting away the sides to enable the body to fit horizontally on the chassis.

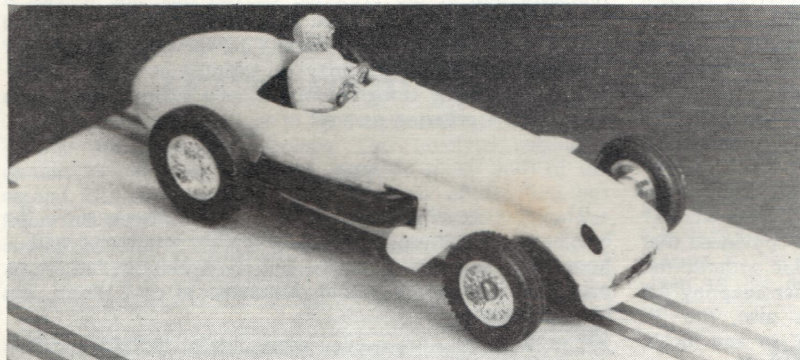
Stage 3 (top right): This underside view shows how the lower body half is modified to fit the Airfix chassis. The rear end (E) has been cut to clear the end of the Airfix Lotus chassis, and here it is cemented in place. The cut can be crude as this part does not show when the model is completed. The peculiarly shaped cutaways (D) are necessary to clear the rear axle which joins the wheel hubs at this point. With these the body can be removed from the chassis at will so that the car can be 'serviced' just like a standard Airfix car. The method of removing or replacing the body involves sliding it off or over the rear axle with the nose pointing upwards. The other key letters in this picture show parts already referred to in stage 2. Final work at this stage is to cut out the radio aperture (G).



Stage 4 (below): Finally the lower part of the nose moulding is cut out and cemented to the chassis front, as mentioned in stage 1. The chassis, motor, and braids are assembled in the normal way. Stone guards are from plastic card and cemented behind the front wheels, plus exhaust pipes, which I made from insulated wire cut to length and bent to shape before cementing them to the body side.



Above: Cut-away of prototype car shows exhaust pipes and filler cap positions. Note also the stone guard.
Left: Left side view shows cut-out in body side. Colour of car was silver with red numbers on a white disc.



PARTS LIST

W196 body shell set
Airfix Lotus body
Auto Union axle set
Airfix motor
Pick-up braids
Lotus rear tyres

BASIC RAILWAY MODELLING—continued

end and the small hole of the expansion link at the other. Once again, any projections at the back of this assembly must be cleaned up after the cement has dried. Now the expansion link can be joined to the cylinder and slide bar (part 9 or 9A).

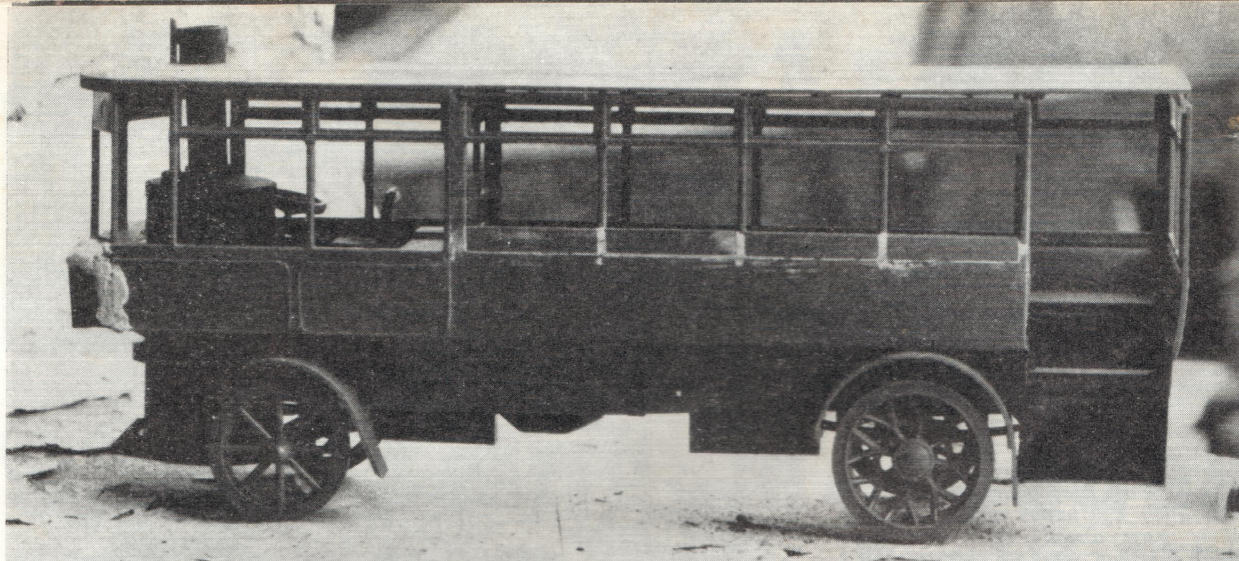
At this point the valve gear appears as a delicate tracery of plastic parts all no doubt flapping about wildly when lifted into space. But simply by hooking the crosshead in place on the slide bar, placing the pin of the eccentric crank through the hole in

the connecting and coupling rods and into the driving wheel, and cementing the cylinder in place on the cylinder block, it all takes shape. What's more, it works! I am sure you will find this sub-assembly idea a whole lot easier as it greatly facilitates cementing the parts without the risk of cement straying where it shouldn't and also makes it easier to clean up the assembly after completion.

I should just mention that to avoid the possibility of the connecting rod rubbing against the coupling rod I have found it desirable to place a washer between these two parts on the eccentric crank pin. By happy chance the Peco rolling stock fibre

washers Type 00/6 are a perfect fit and just the right thickness. Another point worth mentioning is that I have never found it necessary to cement the eccentric crank pin into the driving wheels as described at stages 14 to 17 of the instruction sheet. They appear to sit in place without the aid of cement and one less application increases the chance of success.

Just one final point. It is well worth while weighting your locomotive. My *Evening Star* is filled with a mixture of lead shot and Polyfilla and weighs half a pound. It makes a lot of difference to the smooth running of the locomotive and its track holding properties.



The two pictures on this page show nearside and offside views of the model Garrett steam bus under construction. Note particularly the modified 'B' Type sides and windows.

The bus that never was

MIKE BRYANT BRINGS A PROJECTED GARRETT STEAMER TO LIFE FROM AIRFIX BUS KITS

IN 1925 the Garrett Company produced a design for a Steam Bus mounted on a four-wheel undertype chassis. In fact, this bus was never built although what looks to be a photograph of it appears in a publicity booklet published at that time. This so-called photograph is reproduced in Whitehead's book, *Garretts of Leiston*, and is a very well executed artist's shaded drawing—the projected prototype never excited enough interest to bring forth an actual order.

At first sight, the only similarity between the Garrett Steam Bus and the 'B' Type seemed to be the rear wheels! But when I studied the illustration, I became convinced that it would be possible to adapt the Airfix kit without too much difficulty. The real question was whether adapting the kit would be easier than scratch-building; also, the 'B' Type is not one of the cheapest Airfix kits, so any 'bosh' shots would be expensive. I checked the 'B' Type parts carefully—the sides could be used after modification, although two kits would be needed because the Steam Bus was longer than the rather diminutive 'B' Type—but the more I probed and measured the more I became convinced that the conversion was a practical proposition.

So out came the razor saw, and once that happened everything seemed to go together surprisingly well. I cannot

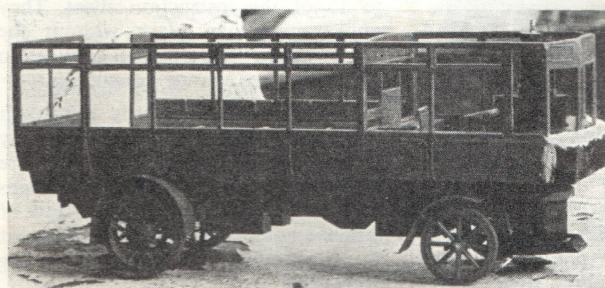
pretend that the resultant model is a perfectly accurate representation of the projected Garrett bus, but at least it looks as though it could have come from the Leiston Works and anyone wanting some variety in vintage transport for his 1:32 scale collection may be tempted as I was. It certainly looks right alongside my Garrett steam lorry which is as good a criterion as any!

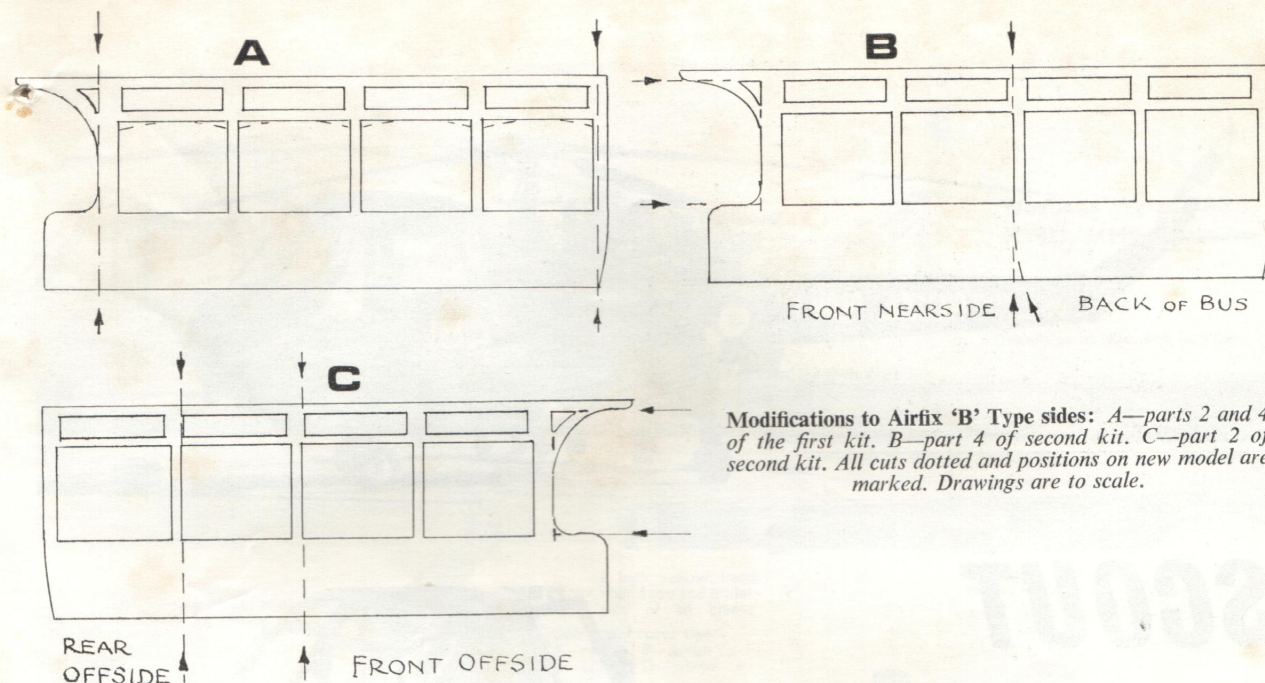
THE MODEL

The photographs with this part of the article show the bus half-built; those with next month's instalment will, I hope, show the model finished and resplendent in full livery, provided it survives postal handling to and from the photographer.

The 'B' Type sides needed some careful treatment before any assembly started. First, the upper framing of the main windows had to be carefully squared with a file to remove the arched effect: the framing is reasonably delicate, so great care was taken over this process, remembering that there were no spare sides available in case of accidents as all the sides of *both* kits were fully used in the conversion. The raised beading round the lower side panels should also be filed off; this has been done on the rear half of the nearside of my bus—the rest remains to be done with the final stages. Secondly, each large window was filled along its bottom edge with a 4 mm wide strip of plastic—parts 48 and 49 from the 'B' Type kit are a useful source of supply for this filling. Any resultant cracks were filled with body putty and filed flat after the putty had hardened to produce a deeper, flush lower panel. Once again this treatment is shown in the photograph on the rear section of the nearside of my bus.

I started with a pair of sides, parts 2 and 4, and reduced them to plain rectangles by cutting off a sliver from the rear edge of each (this removed the tumblehome, or curving,





Modifications to Airfix 'B' Type sides: A—parts 2 and 4 of the first kit. B—part 4 of second kit. C—part 2 of second kit. All cuts dotted and positions on new model are marked. Drawings are to scale.

at the bottom), and by cutting off the verandah and apron from the front. These two doctored sides were then cemented, in their correct positions, to the floor according to the Airfix 'B' Type instructions, and an unmodified Part 6 was glued in place between the sides. The 'B' Type lower deck front now becomes the partition between the driving cab and the passenger compartment in the Steam Bus.

ENTRANCE AND STEPS

The 'B' Type body has to be lengthened at the rear to include the passenger entrance. This involved cutting a section 29 mm long cut from the floor (front end) of the second kit, and cementing it to the rear of the first bus floor; the nearside sloping edge on this extension piece was cut off so that the steps reached straight to the flat floor. The 'ears' protruding from the back of the main floor were cut off and a bit of fiddling and filing was necessary to mate

the two floor sections so that the lengthened floor was flat and true; body putty made good any cracks. To balance the passenger door the offside of the bus was lengthened by a single window section, cut from the back of part 2 of the second kit (from the back you have a ready made tumble-home). The actual back panel of the bus was a two-window section from the rear of part 4 from the second kit, with the bottom panel curved to match the tumblehome. The safety screen at the forward side of the passenger door was a window panel from part 16.

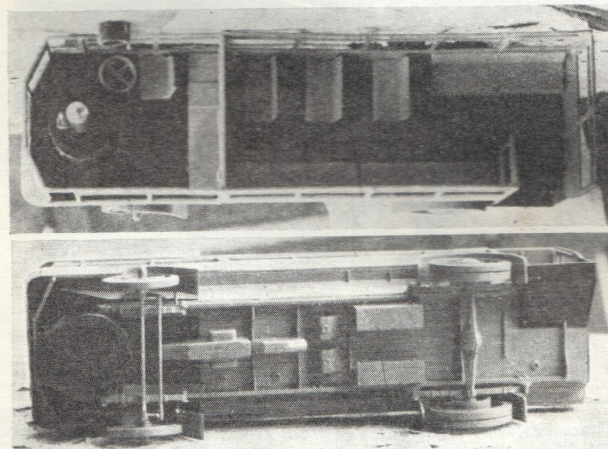
A word of warning here: the structure at this point is flimsy in the extreme, so care in handling is necessary. Also, the sides showed every sign of distortion and bowing inwards, but when the roof was fitted all this disappeared. Contrary to the Airfix instructions, I did not fix the window glazing at this stage; this was, in fact, almost the last job, when all the painting had been completed.

(Continued next month)

UNUSUAL AIR SHOW

IN this age of supersonic flight and swing wing fighters it comes as something of a surprise to find that one of the air shows taking place over August Bank Holiday weekend this year is devoted largely to the most primitive form of flying there is. It is an air show with a difference where you can see vertical take off and landing done the hard way. In balloons, as a matter of fact, where VTOL characteristics were being perfected nearly 200 years ago. Indeed, a replica of the Montgolfier brothers' hot air balloon that first flew in Paris in 1783, is one of the star attractions. In addition to this there will be races for modern hydrogen balloons, including *Jambo*, the balloon that carried a crew of three on safari across Africa.

The venue is Dunstable Downs, the well-known London Gliding Club centre, and the dates are August 28 and 29, 1966. Other attractions at the show include sky-diving, historic aircraft, glider aerobatics and races, radio controlled model aircraft, a Spitfire flypast and an event titled, somewhat mysteriously, ascending parachutes.



Above: Top and bottom views showing interior and chassis arrangement. Floor behind rear wheels is the extension piece. Remaining constructional details follow next month.



SCOUT INTO WASP

BY ALAN W. HALL

At first sight the Scout into Wasp conversion is an easy one, but when the two planes are considered side by side it will be seen that, although basically similar, they do in fact differ in almost every detail. This conversion therefore is for the more advanced model maker and certainly for the one with a large spare parts collection.

The only parts of the Scout kit that do not need something done to them are the forward part of the fuselage, the rotor and the engine. The rear fuselage has to be altered; there's a change in the tail boom; the rear stabiliser is different; the nose changes and of course there's a different undercarriage. This is all apart from a change of markings which involves some hand painted lettering.

The most difficult part was making the new undercarriage. Photographic evidence was hard to find of the rear wheels and the stub wing on which they are mounted but I did find a good drawing in a back issue of *Flying Review International* and I also took a good look at the Wasp aircraft at RNAS Culdrose when I visited that station recently.

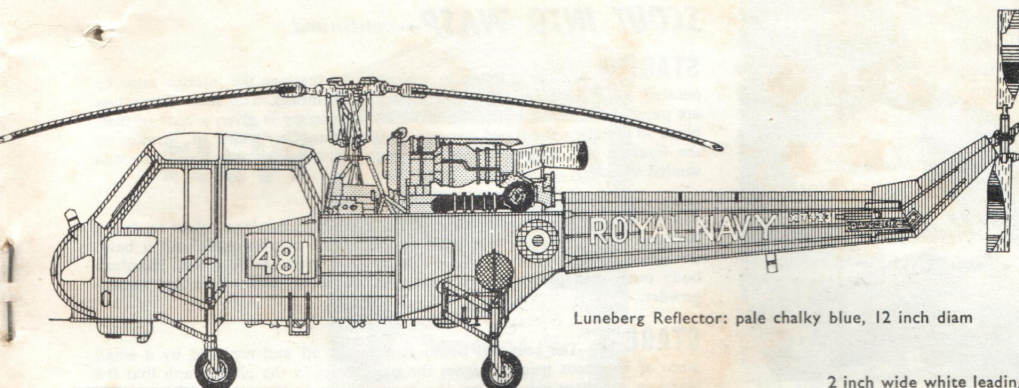
Although I could have made up the four undercarriage legs from scrap plastic I found that use could be made of the rear wheel of the Airfix Hudson kit, plus wheels taken from the nose wheel of the Airfix Jet Provost kit. I am aware, of course that to do it this way would mean considerable cost for the model maker but to do the job in the easiest possible way was the criteria and I found what I wanted in my spare parts box. Most experienced model makers will have a collection of bits and pieces like this and they will, like me, be able to piece together their own undercarriages from this.

Continued on page 18



Top: Westland Wasp XT 423 from HMS Hecla seen at RNAS Culdrose, March 1965. Centre: Painted dark-grey overall the Wasp has the serials and codes painted in white. On the nose the last two digits of the code appear and the name of the parent ship. Above: The starboard front undercarriage leg of the Wasp.

AIRFIX magazine

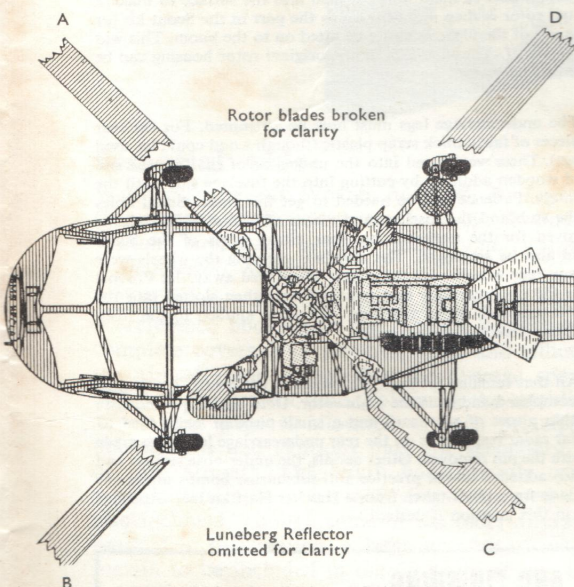


Westland Wasp HAS1,
XT423, HMS Hecla

Drawings by Richard L. Ward

Luneberg Reflector: pale chalky blue, 12 inch diam

2 inch wide white leading edge narrows
to 1 inch wide at half span



Rotor blades broken
for clarity

6 inch yellow band
round top and under-
side of all blades

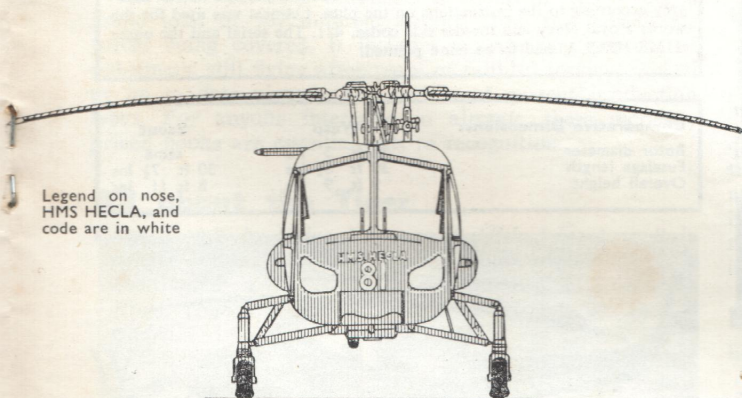
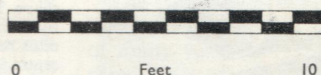
Colours of rotor tips:
A—red B—green
C—blue D—white

Underside of
blade is black

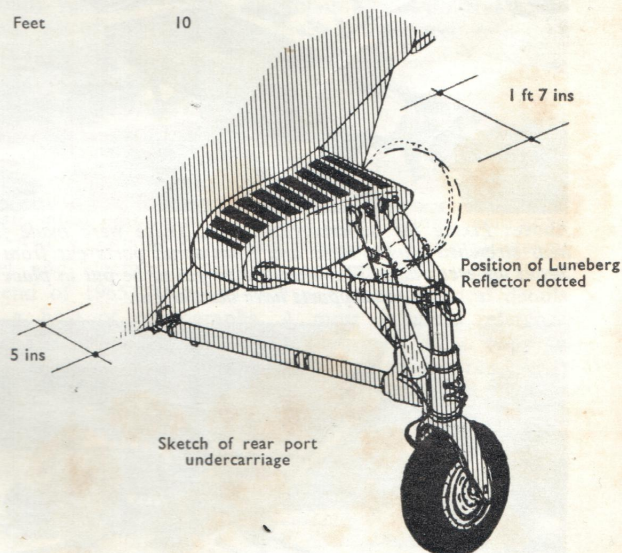
Later aircraft have non-
tapered exhausts

NB: Glazing on cabin top is
dark green; all aerials and
markings are white; bands
round UHF aerials are blue

1:72 SCALE



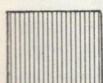
Legend on nose,
HMS HECLA, and
code are in white



1 ft 7 ins

Position of Luneberg
Reflector dotted

Sketch of rear port
undercarriage



Dk Blue



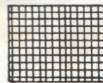
Medium
Grey



Silver
black



Natural
metal



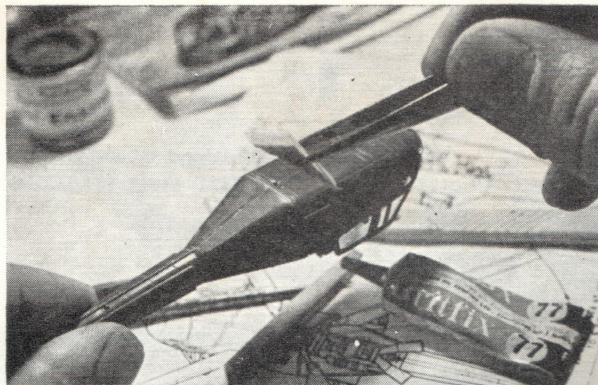
Roundel
Blue



Red



Black



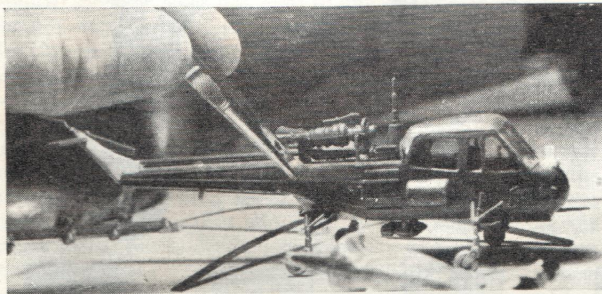
Above: The triangular piece of balsa about to be placed in position on the underside of the fuselage. Note that the surface has been filed flat.



Above: The new tail boom in position. Note that three cuts have been made in the rear fuselage to take the shape.



Above: Fixing the undercarriage legs. These were made from heat stretched plastic stem and from small parts cut from the Scout undercarriage. The wheels have yet to be put in place but the supports have been added.



Above: Final details. Engine and canopy have been put in place. UHF aerials put on the nose and under the rear fuselage and small bombs mounted. Radar reflectors are being added to the top rear undercarriage. Right: The completed model.

SCOUT INTO WASP—continued

STAGE 1

Before starting to assemble the fuselage the interior must be painted a light grey and the cockpit seats assembled. The seats themselves are painted very dark blue. The inside of the canopy is given a coat of matt black to simulate the toned perspex used on the Navy's aircraft. Strakes on the fuselage side under the engine compartment are removed and the area sanded smooth.

STAGE 2

After having allowed the assembled fuselage halves to dry, a flat area is filed on the underside of the engine compartment and a balsa triangular section is cut and stuck in place. Any gaps are filled with Humbrol body putty and the whole section given a coat of clear dope and talcum powder.

STAGE 3

The rear tail boom is now cut off and replaced by a small piece of balsa cut to shape from the plan. Note in the photograph that the boom is cut three ways to get the correct fit and allow a good joint. After shaping the new boom can be fitted with the Scout kit stabiliser cut down and fixed on the starboard side. A small notch is filed into the surface to make a good joint. The tail rotor is then mounted on to the part in the Scout kit for this and, with the use of the file, can easily be fitted on to the boom. This was one of the lucky parts of the conversion as the original rotor housing can be adapted easily to fit the revised boom.

STAGE 4

The undercarriage legs must now be attempted. For the rear pair I used two pieces of fairly thick scrap plastic (though wold could be used for the stub wings). These were fitted into the underside of the fuselage and triangular shaped wooden addition by cutting into the fuselage side until the stub fitted accurately. Patience will be needed to get this right. Small holes were drilled in the stub and the fuselage and pieces of heat-stretched plastic stem were employed for the undercarriage legs. Small parts of the Scout undercarriage can also be employed. The members carrying the wheels were made from Hudson rear wheels with the actual wheel filed away. Jet Provost nose wheels with the undercarriage legs removed were then slotted into the gap and the whole assembly glued together. The same applied to the front wheels, though these were easier to manage.

STAGE 5

All that remains to finish the model is the detail. The engine and cockpit are completed and so is the main rotor. UHF aerials on the nose are made from thin pieces of plasticard and a small piece of balsa filed to shape. The circular radar responders on the rear undercarriage legs were made from map pins with the pin removed. Other aerials, the under-nose section and pitot head are also added. I added practice anti-submarine bombs under the centre fuselage made from those taken from a Hawker Hart kit but torpedoes could be placed in this position if desired.

PAINTING AND FINISHING

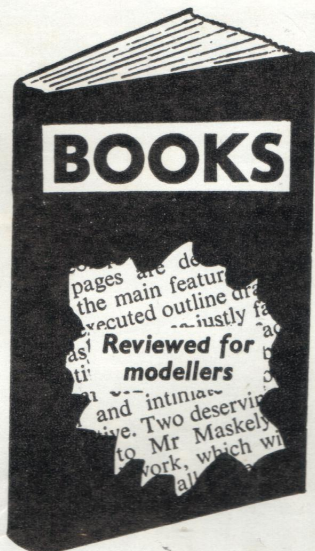
The model is painted overall blue-grey according to the instructions on the plan. Letraset was used for the words Royal Navy and for the side codes, 481. The serial and the name 'HMS HECLA' had to be hand painted.

Comparative Dimensions:

	Wasp	Scout
Rotor diameter	32 ft 3 ins	same
Fuselage length	30 ft 5½ ins	30 ft 7½ ins
Overall height	9 ft 9 ins	8 ft 11 ins



NEW BOOKS



Essential aids

WARPLANES OF THE WORLD, by J. W. R. Taylor. Price 30s.
CIVIL AIRCRAFT RECOGNITION, by J. W. R. Taylor. Price 3s.
Both published by Ian Allan Ltd, Terminal House, Shepperton, Middx.

FOR a mere 33s, these latest editions of two well-known reference books give the aviation enthusiast a virtually complete coverage in pictures, data, and silhouettes, of all the aircraft—and more—that the average spotter is likely to see at the present time. Following the established format, a complete page is allocated to each principal type with photographs and captions only for secondary, obsolescent, or rare aircraft. The 'civil' book mainly covers aircraft seen in Britain, but the more important overseas types are also included. Though some of the older aircraft have been omitted in this edition, a large number of veteran aircraft remain to be included in the 66 pages of this book.

The book covering warplanes is bound in stiff covers, a grand total of 367 different aircraft from the world's air forces being covered. It includes a surprising number of old-timers, still flying after years of faithful service, as well as up to date pictures and details of current production types. For anyone interested in aircraft, these modestly priced books are essential aids to recognition.

All about the Tiger

TIGER TANKS, by Heinz Nowarra. Published by Aero Publishers Inc, 329 Aviation Road, Fallbrook, Calif, USA. Distributed in UK by W. E. Hersant Ltd, 228 Archway Road, Highgate, London, N6. Price 23s 6d, postage included.

WE were interested to read in a recent advertisement that Aero Publishers were to augment their already extensive series of aviation monographs by a similar range devoted to tanks and armoured vehicles. The review copy arrived sooner than expected, and we were pleased to discover that it fully maintains the high standards of production and layout that we have come to expect from this publisher. Military modellers have never been so well served as aircraft enthusiasts but this volume on the Tiger goes a long way to making amends in handsome style. The book

can only be described as lavish and is the answer to a modeller's dream. It consists almost entirely of illustrations showing characteristics of the Tiger series, mechanical and internal features, armament, stowage, colour schemes, and construction. Such text as there is serves as an introduction to each part of the book, and each picture is fully captioned. Many of the illustrations appear to be taken from the British STT report on a captured Tiger and, as these included cut-away drawings, the enthusiast has them reproduced here. The colour schemes are really in colour, and these will aid modellers searching for colour guides.

As well as the Tiger Model E, the book covers the King Tiger, Jagd Tiger, Sturmtiger. It is primarily a descriptive book and it makes little or no mention of the Tiger's development. We would have liked to see more about this—for instance the story of the 'rival' Porsche and Henschel designs would have been worth including, though this comment in no way implies criticism of a book that should be on the shelf of every military modeller.

Air aces

ACES HIGH, by Christopher Shores and Clive Williams. Published by Neville Spearman Ltd, 112 Whitfield Street, London W1. Price 50s.

THIS book will interest the model maker and air historian alike. Its most important contribution to knowledge on the RAF is a complete collection of biographies of all RAF aces during World War 2.

For the model maker the last chapter gives camouflage details and side view drawings of many of the aircraft flown by the aces and will be of great use to supplement photographic evidence already available. In addition to this, a potted squadron history for every unit flying fighter aircraft during the war is given.

The authors are both members of Air Britain's Aces Research Group and the work now published is the result of many years of research. The book is well illustrated and should be of interest and use to a wide section of the aviation minded public.

Latest Locomotives

BRITISH RAIL LOCOMOTIVES AND OTHER MOTIVE POWER—COMBINED VOLUME, published by Ian Allan Ltd, Terminal House, Shepperton, Middx. Price 12s 6d.

THE latest edition of Ian Allan's well known combined ABC's contains 272 pocket size pages listing all steam, diesel and electric locomotives and multiple units as at the end of 1965. Also included are brief technical details and a host of photographs. A most valuable reference book and if you haven't treated yourself to a copy in recent years, this edition is well worth having because it includes the latest LMR electrification rolling stock,

Buses of Bristol

BRITISH BUSES—NO 13 BRISTOL, published by Ian Allan Ltd, Terminal House, Shepperton, Middx. Price 4s 6d.

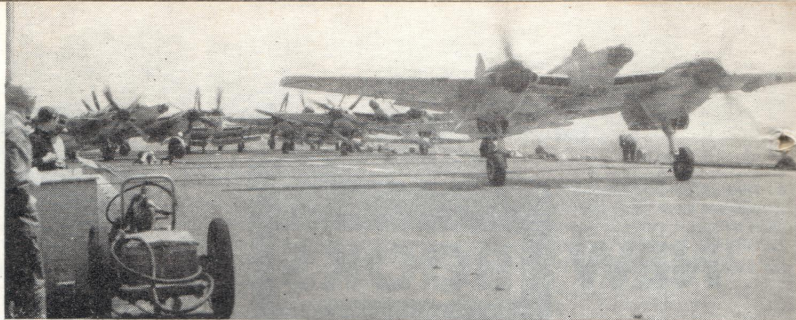
SUCH is the turnover in new buses that only eight of the vehicles listed in this edition appeared in the first edition published in 1949. Produced in co-operation with the Bristol Omnibus Company it gives a potted history, route map, list of services and a fleet list. The latter includes chassis and body type, date commenced service, fleet and registration numbers. The 16 pages of illustrations are mostly modern views.

photoPAGE

'Photopage' has now become a regular feature, and further pictures will be published as available. We would be pleased to consider any contributions from readers, particularly of squadron aircraft or interesting colour schemes, and a free Airfix kit will be awarded for each picture used. Would intending contributors please note, however, that photographs submitted should be private copyright.

Owing to space limitations, it may be necessary to hold pictures for a few months before publication. To ensure safe return, please write your name and address on the back of each print. We cannot use press cuttings.

Captions: M. J. F. BOWYER

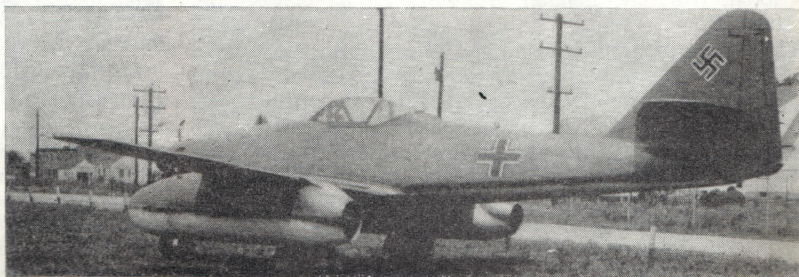


Top: C. Wright sent this fine view of 809 Sqn Sea Hornet 21s on board HMS Vengeance in 1950. **Above:** "Those Magnificent Men"—a Bristol Boxkite on the sands at Lytham-St-Annes. F. Williams found and submitted the picture but, like us, he wonders when and why it was there.



Above: Unique picture from Australian reader P. S. Hawthorne shows LA160, a Curtiss Mohawk, with others of 5 Sqn in an Indian hangar. Hawthorne says it was seized by British forces when Iran was occupied, sent to India and assembled. **Below:** P. Garside found this Me 262A picture. Again it's a mystery—can anyone say more about this particular aircraft?

Top: A. Twycross sent this Dick Stouffer picture of Carl Swanson's Sopwith Triplane replica, N5492, Black Maria as flown by Collishaw. Aircraft is destined for the Canadian Air Museum. **Above:** HD176, a Thunderbolt I of 73 OTU, Fayid, in 1944 is in an interesting finish of dark grey-green/light grey with sky band. 36 was white. Picture by A. W. Jesse.



HARLEYFORD

HARLEYFORD HAS PRODUCED ANOTHER PUBLICATION, AND VENTURES TO REFER TO IT AS UNIQUE IN AVIATION LITERATURE. ITS PRIMARY PURPOSE IS TO LIST THE AVIATION BOOKS IN THE HARLEYFORD RANGE; SO, WHAT MAKES IT EVEN REMOTELY UNIQUE? A LIST OF FACTS IS OBVIOUS, BUT HARLEYFORD BELIEVES IT NECESSARY TO PROVIDE CUSTOMERS AND WOULD-BE CUSTOMERS WITH MORE THAN PLAIN FACTS. INDEED, SUCH IS THE SCOPE OF HARLEYFORD BOOKS, AND SO UNUSUAL THE METHOD OF RESEARCHING AND PREPARING THEIR MANUSCRIPTS, THAT FACTS ALONE WOULD PROVE A POOR APERTIF! EACH BOOK IS DESCRIBED IN DETAIL, AND EXAMPLES GIVEN OF THE MANY ILLUSTRATIONS THEY INCORPORATE. TO FURTHER WHET THE APPETITE EIGHT PAGES PROVIDE FULL BOOK SIZED (1/72 SCALE) LINE DRAWINGS AND TONE PAINTINGS OF SUBJECTS AS DIVERSE AS FOKKER'S SPIDER III AND THE NORTH AMERICAN MUSTANG. AND THE STORY OF HOW THESE BOOKS ARE COMPILED AND WRITTEN AND OF THE MEN WHO SHARE THESE TASKS IS INCLUDED. OTHER PUBLISHERS' LISTS SELDOM ASPIRE TO SO MUCH—IF ANY, IN WHICH CASE IT MAY BE JUSTLY SAID THAT HARLEYFORD'S

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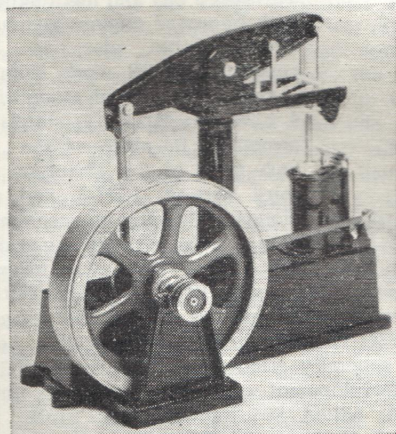
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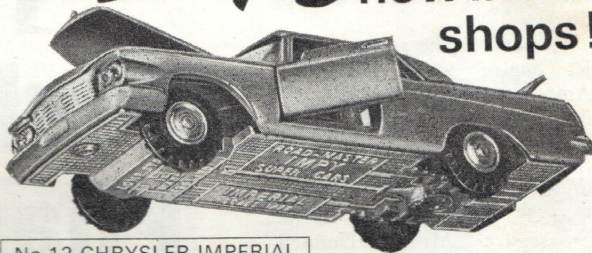
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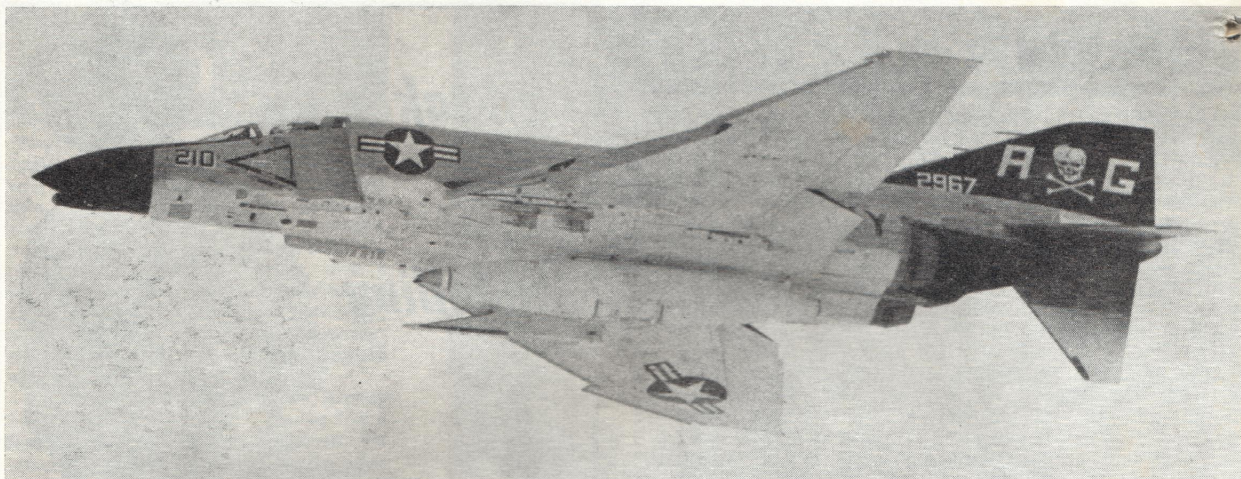
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WHEN photographs appeared during the closing months of World War 2 of a bat-like experimental long-range twin-engined fighter carrying the hefty punch of six 37 mm cannon, McDonnell, a new name in the fighter field was thrust very much to the fore. This was McDonnell's first publicly disclosed design, and although very fast—it reached 448 mph—it was too late, being overtaken quickly by developments in the jet field. It was a decidedly unconventional machine, and this was soon seemingly the hallmark of McDonnell products, for the next fighter from the St Louis stable was the curious XF-85 Goblin parasite fighter, devised for carriage in the belly of the Convair B-36 bomber. It was fixed to a trapeze which extended for launch and recovery, giving the long-range bomber a unique deep penetration fighter escort. The XF-85 flew in August, 1948, but by this time McDonnell was much involved in more rewarding fields.

As soon as the success of the jet engine was certain the Americans were quick to realise its potential. Operating jets from land was one thing, but from carriers it presented some obvious difficulties. Nevertheless, the idea appealed to the progressive Mr McDonnell, when the US Navy announced its future requirement for jet carrier-based fighters. Plans for a machine (the XFD-1 later XFH-1) with two jet engines situated in the wing roots were approved in mid-1943, and the prototype, BuNo 48235, flew in October, 1944. When carrier trials began on July 21, 1946, it was at once apparent that the basic snags had been over-rated. 130 production machines basically similar to the prototype, and designated FH-1, had been ordered in March, 1945. By the time they appeared in 1947 the name Phantom had been given to the FH-1, which had a top speed of 487 mph at around 40,000 feet.

The end of the war brought all-round cuts, the Phantom

order falling to 60 (11749-11808), the last of which was completed in May, 1948. Most of the Phantoms went to the Marine Corps, while those of the US Navy formed the first regular ship-board fighter squadron, VF-17A.

Early carrier-based jet operations soon showed a need for larger ships, stronger arrestor gear, powerful catapults and new ideas in deck handling. Nevertheless, the Phantom from the start showed great promise, so much so that the US Navy signed a contract on March 2, 1945, for a revised version, the XF2D-1. It first flew on January 11, 1947, and was named Banshee. Tests revealed a top speed of 585 mph,

a ceiling of over 50,000 feet and a 900 feet per minute initial climb rate. Fifty-six F2H-1 Banshees (122528-58, 122991-3015) were ordered in May, 1947, and the F2H entered service in March, 1949. In appearance the Banshee looked like a swollen Phantom. As soon as the first contract was finished the F2H-2 came onto the lines. This was a day and night fighter with improved engines and fuel tankage able also to be equipped for PR work. Bombs could also be carried, along with 4 x 20 mm cannon as standard armament in place of the .50 inch guns of the Phantom. A third version, F2H-3, had an elongated fuselage to accommodate a radar scanner. An order for 250 of these was placed,

the first entering service in April, 1952. A final version, F2H-4, had further improved engines, a five foot longer fuselage than the F2H-1, in-flight refuelling capability, new tail unit and was generally cleaned up. At last the F2H topped 600 mph. Development was now reaching its limit and accordingly was halted. 894 Banshees were built.

F2H-2s arrived off Korea in the USS *Essex* in August, 1951, and on August 25 began close escort of B-29 Superfortresses operating over North Korea. For the remainder of the war Banshees were usually part of the UN forces, and remained in service with the Navy for most of the

PROFILE

The Fighting Phantom

'fifties. They also served with the RCN aboard the carrier *Bonaventure*.

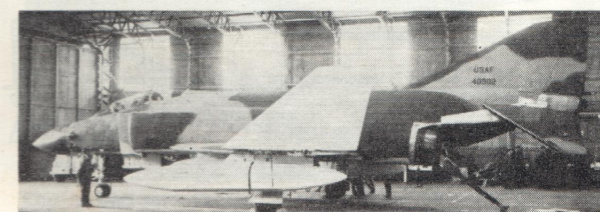
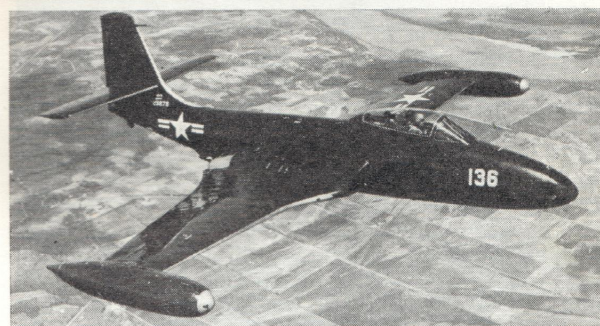
Having tasted the fruit of success, it was natural that McDonnell would want to continue supplying fighters to the US Navy. In 1949 the company designed an all-weather jet carrier-borne fighter, the XF3H-1 Demon. Four prototypes were ordered on September 30, 1949, the first flying on August 7, 1951. Immediately it was obvious that the aircraft was underpowered, but in the hope that things would resolve themselves satisfactorily an order for 146 was placed in August, 1952, due to the need for fast aircraft to combat the Russian jets over Korea. The Demon's development period was fraught with trouble. Although production began in 1953 only 11 Demons—six of which had crashed—were flying by 1955. Accordingly the contract was cut to 60 F3H-1Ns, all built by June, 1955. A decision was made to re-design the Demon so that its Westinghouse engines could be replaced by Allison J71s. Fierce controversy over the Demon troubles died away, accepted as stemming from haste and dire need.

With modified wing and J71 engines with afterburners fitted, the F3H-2 proved highly successful. Four hundred and sixty were produced in three versions, and many are still flying. Most of the Demons were F3H-2Ns night-fighters, this variant entering service in March, 1956. Some were reconnaissance aircraft, and F3H-2Ms carried four Sparrow III missiles on wing pylons for day fighting. Top speed of the F3H was around 700 mph. In-flight refuelling was standard and 4 x 20 mm cannon were usually carried. But the most significant thing about the F3H was its ability to outperform many land-based fighters of its day. Thus it was ideally suited to operate from the carriers of the Sixth and Seventh Fleets, where the possibility of meeting advanced land-based fighters was ever present in the 1950s and 1960s, and now of meeting them on something like equal terms.

Whilst the development of naval jets proceeded apace, McDonnell born to be a fighter specialist, far from neglected their interest in land-based fighters for the Air Force. After trials the Goblin was rejected by the USAF which turned its attention to another form of bomber escort, a very long-range or deep penetration fighter for SAC. On June 20, 1946, McDonnell began detail design of such an aeroplane, the XF-88. For the range prescribed a large airframe to accommodate the huge fuel load was dictated which meant very powerful engines for the high speed required and in turn a very clean design. Basically the new aeroplane had the format of the old Phantom, its twin engines being placed close to ease control when one engine only was in use. For the first time McDonnell adopted swept ultra-thin wings to ensure high speed, this being possible since no decklanding requirement was likely. Development flying with two prototypes proceeded, but again the basic concept became outdated before any production could start and the XF-88 programme was cancelled in August, 1950.

This happened at a time of flux as the demands of the Korean War were beginning to appear, and bomber development was at the cross-roads with the large jets advancing upon the scene. The XF-88 was to now prove of considerable value, for upon it was based the F-101 Voodoo from which was to come, much later, the exceptional Phantom II. In its original form the F-101 was once more a scheme for a long range and supersonic fighter. Twenty-nine were ordered for tests in May, 1953, but the next year SAC

Continued on next page



Top to bottom: This might almost be called 'Spot the Phantom'—which indeed is the intention here, for these camouflaged F-4Cs are depicted over Vietnam; effectiveness of the three-tone camouflage is plain to see. F2H-2 123279, representative progenitor of the Phantom II. F-4C 40866 of 81 TFW. F-4C 40920 taxis by at Bentwaters. F-4C 40902, with wings folded, at Bentwaters. Wing folding is rarely used on the USAF Phantoms, but can be useful.

PROFILE—Continued

withdrew its need for fighters to protect its future bomber force. The F-101 had aroused interest in the ranks of the Tactical Air Command, and when SAC interest lapsed, the programme for the F-101 was taken over by TAC and the Voodoo was then developed as a fighter-bomber. In addition to 29 trials aircraft, 50 F-101As were ordered and delivery began in May, 1957. Rockets, bombs, missiles and a centrally slung nuclear weapon could all be carried at around 700 mph at sea level. 54-1486 was strengthened for low-level attack, and became the first F-101C, of which 47 (54-1486 to 1493 and 56-0001 to 0039) were built. The F-101A/Cs served from the end of 1958 with 81 TFW at Bentwaters, this being the only Wing thus equipped.

Like other fighters of the period, the F-101 had a reconnaissance ability. Two modified F-101As were ordered in June, 1954. They had lengthened noses to accommodate up to six cameras, and 35 production aircraft based upon these were ordered as RF-101As. One hundred and sixty-six RF-101Cs were later produced, being based upon the low flying F-101C. Delivery was begun in July, 1957, the RF-101Cs remain in squadron service in Europe and the Far East. Another version of the Voodoo still in use is the F-101B, a two-seater all-weather fighter used for home defence in the USA.

During Voodoo design and development McDonnell turned attention to yet another fighter. This the single-seat AH-1, was conceived around two J65 engines. Work upon it began in 1953. At first it had cannon, but a change in concept led to a crew of two, two J79 engines and missile armament. These changes and much increased wing area resulted in the F4H-1 subsequently called, evocatively, the Phantom II. Basically it resembled the Phantom I, with its twin engines and unique performance for a carrier based fighter. Few at St Louis could in 1943 have foreseen the day when their 2,000 mph jet would easily perform from

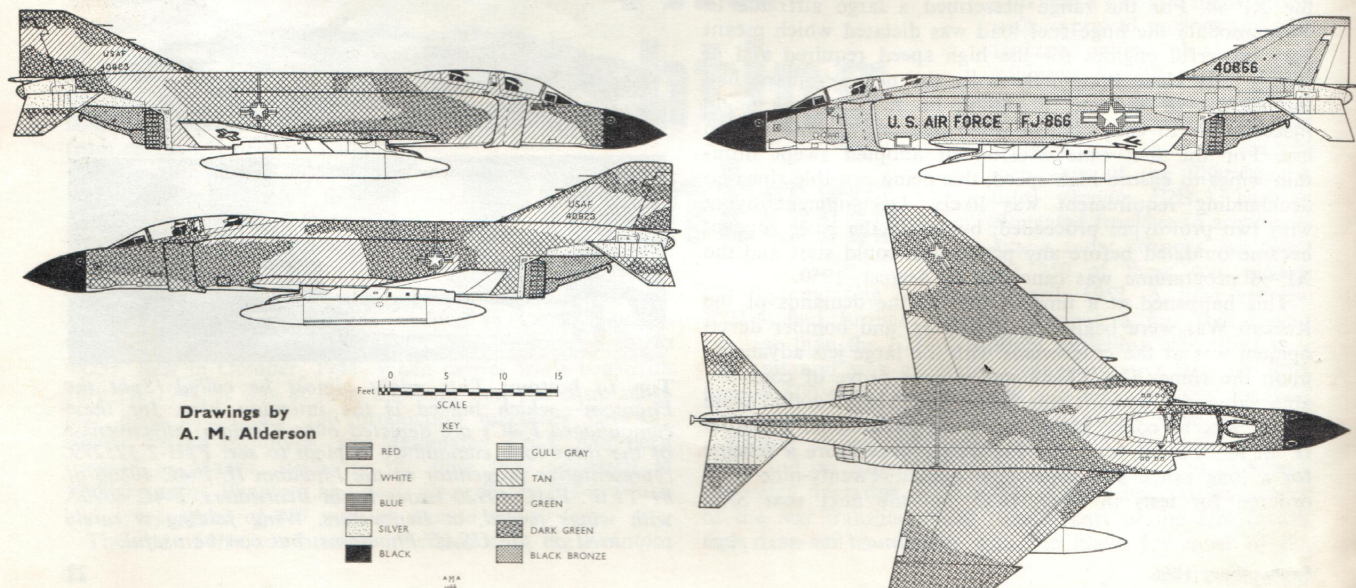
carriers. And who, in those far off days, would have wagered that the day would certainly come when the Air Force would adopt a carrier-based fighter-bomber complete with arrester hook and folding wings, for its front-line squadrons?

Major alterations in F4H appearance were brought at the outset by the decision to give 12 degree dihedral to the outer wing sections to improve stability, and 15 degree of anhedral to the tailplane so that it avoided wing down wash. These features combined to give the machine a somewhat clumsy appearance, whereas its performance was simply startling. A maximum speed of Mach 2+, ceiling of over 60,000 feet and a range of over 2,000 miles carrying an effective load could be little less than exceptional even in the 1960s.

Two AH-1 prototypes were soon followed by 23 F-4As, the designation being thus changed when the US services integrated nomenclature of their aircraft. 142259, the prototype, first flew on May 27, 1958, but the complexities of the F-4 were worked out mainly by 23 pre-production aircraft of which 143388 was the first. 143392 was used to explore the radome shape, radar, and infra-red sighting gear. 143393 tested the Phantom's boundary layer control system, whereby compressed air is blown behind the forward and over the aft flap sections, producing the peculiar howl the Phantom makes on final approach. Others tested weapons, general flight characteristics, etc. Twenty-four production F-4As were ordered, with J79-GE-2A engines. In February, 1960, carrier trials began and a year later the first Navy fighter squadron (VF-121) began training on the F-4, followed in July, 1961, by VF-101.

Much impressed by the Phantom's capability the US Navy and Marine Corps placed large orders for the F-4B, a revised version with J79-GE-8 engines and able to carry four or six Sparrow III missiles or four Sparrow IIIs and four Sidewinders. Many F-4B squadrons now operate with the Sixth and Seventh Fleets, crewed by a pilot and radar operator. They have taken part in many operations over

Below, right: 48066, an F-4C of the 81 TFW, devoid of unit markings. The rudder, upper surfaces of flaps and ailerons and outer tailplane are glossy white. Camouflage is applied to aircraft when they undergo major overhaul. Grey F-4Cs include 40856, 40858, 40862 and 40870. **Left and lower right:** Three views of F-4C-25-MC 64-0923 of the 81st. The under-surfaces officially 'Gray' are almost white, and matt. Long-range tanks and outer pylons are glossy white. Upper camouflage is matt. The national insignia is not outlined blue on camouflaged aircraft, this feature seeming to be peculiar to the F-4s. Similar machines: 40887, 40889, 40900, 40909, 40925.



North Vietnam and are used primarily as air superiority fighters.

US Navy F-4Bs are finished in gull grey and white. Lettering and numbers are basically black, often outlined in white. Colourful squadron markings are usually carried.

The USAF eyed the F-4 enviously for even with its naval load it was a glittering performer. In 1961 it compared the F-4 with the F-106A and found it superior. Evaluation of the eleventh F-4A confirmed this, the machine being able to out perform all Air Force fighters and carry an 11,000 lb bomb load.

In March, 1962, the first large order was placed for the F-4C close-support and air superiority fighter-bomber, able to carry weapon loads and radar similar to that of the Navy version. Changes called for were few, although the USAF opted for two pilots and now operates the aircraft in the specific roles of strike (F-4C) and reconnaissance (RF-4C). Self-starting systems are fitted to the J79-GE-15s of these aircraft. A pick-up point aft of the canopy is installed for in-flight refuelling in place of the probe of the F-4B. Larger wheels are fitted, necessitating a deeper wing centre section. From a modelling viewpoint this calls for a tricky yet small modification, necessary if a USAF or British Phantom is the subject. Improved view from the rear cockpit is needed for the second pilot, achieved by lowering the top of his instrument panel.

Two F-4Bs, 149405-6, were loaned to the USAF in 1962 and more later, for handling and training. 63-7415, the first F-4C, flew on May 27, 1963, its grey and white finish being similar to that of the F-4Bs. Since then the flow of F-4s has gathered momentum and two wings in Britain operate them. Eighty-one TFW at Bentwaters has F-4Cs, many now camouflaged, whereas the RF-4Cs of 1 and 30 Squadrons of 10 Tac Recce Wing at Alconbury are all still grey and white. Neither unit marks its aircraft with any identity.

RF-4Cs with their 33 inch nose extensions carry oblique and panoramic cameras. On a recent visit to Alconbury I was shown photographs from the latter, each print depicting the terrain visible at the time from horizon to horizon. Photoflashes can be dropped from a rear bay for night photography. SLAR and forward-looking terrain radar are also standard fittings. I enquired about the use of wing folding at Alconbury. Apparently it is rarely done, since the aircraft usually squat on their spacious dispersals. No guns or missiles are used on the RF-4C, the USAF maintaining that it is best for the pilots to concentrate on one purpose at a time.

In July, 1964, the Royal Navy ordered two YF-4Js—the first of which, now a YF-4K, XT595 is flying in dark sea grey and white finish—as Sea Vixen replacements to be followed by large orders. In November, 1965, it was announced that the British aircraft would be powered by the Rolls-Royce RB168 Spey and redesignated F-4K. This engine confers more power and range to the Phantom. Since the Royal Navy intends to operate its Phantoms from smaller carriers than the Americans the F-4K needs the better take-off and approach performance allowed by the Spey. Dropped ailerons and slotted tail will also assist in handling. A 40 inch longer travel nosewheel leg is fitted to improve the angle of attack on take-off, and the nose radome folds sideways allowing the aircraft to be accommodated on British carrier lifts.

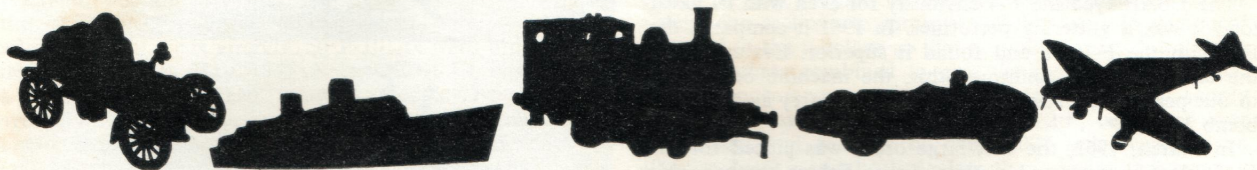
When the P1154 was cancelled in February, 1965, the gaping hole in future RAF requirements could only be

Continued on page 30



Top to bottom: Another view of 40902 showing the arrestor hook, engine installation and the small national insignia. Three views of an RF-4C-23-MC, 64-1077A. The nose radome is white, the undersurfaces off-white. Upper areas are grey. Associated group equipment is yellow. Aircraft belongs to 10 TRW. 4104, another RF-4C. The differences between either side of the aircraft are few and are almost entirely restricted to the inscriptions. Heading picture to this article shows US Navy F-4B, 142967, in grey/white with blue tail and white carrier markings.

New kits and models



CLAUDE FROM JAPAN

NICHIMO is a Japanese company, not well-known in this country, but the first example of their work which we received last month was up to the standard of the other recent Japanese kits. This aircraft was a Mitsubishi A5M4 Claude, used by the Japanese in their pre-Pacific war conflict in China.

A fixed undercarriage and open cockpit are features of this aircraft and it makes an ideal subject for a period not widely covered by other aircraft models to date. Unlike many other Japanese kits there is not provision for the inclusion of an electric motor but other features such as retractable wing flaps are provided.

The model is a neat one and the various parts fitted well together. It is to 1:72 scale. There are 33 parts and although they fit fairly well together there was a little difficulty with the wing halves which had to have the locating pins removed before they would fit. The spatted wheels also needed some attention from the knife and file before complete accuracy was obtained. The instruction sheet is in Japanese but the exploded drawing gives sufficient information from which to build the model.

This model sells for 6s 11d and can be obtained from BMW Models of Wimbledon who supplied the review sample.

A.W.H.

MORE PROFILES

TWELVE more Aircraft Profiles have been released recently by Profile Publications Ltd and the list is as follows: Gloster Gladiator, American DH4, Fw 200 Condor, NA P-51B and C Mustang, B-29 Superfortress, Douglas A-4 Skyhawk, P-38J and M Lightning, SE5, PZL P-23, Kawasaki Ki-45, Grumman Bearcat, and DH Comet series 1-4. Most of these will be invaluable to modellers and many of the subjects are already available in plastic kit form, hence the usefulness of Profiles in illustrating alternative colour finishes. Of these releases, the Gladiator, Lightning, and Superfortress Profiles are the best of a good bunch and well worth having even if you don't normally buy much in the way of aircraft literature. The centre-spread of the last named Profile, for instance, illustrates 'Eddie Allen', subject of the Airfix kit transfers.

Eight new Car Profiles have also been announced, covering the Model T Ford, Alfa-Romeo 22/90, MG Magnette, Jowett Javelin and Jupiter, 4050 Napier, Delage 1½ litre, Invicta S-type, and Frazer-Nash Le Mans replica. All are commended to the model car enthusiast. Profiles come at a standard price of 2s each. They can now be purchased at many book and hobby shops, but are also available by post from BMW Models of Wimbledon.

Aircraft Profiles are also offered in bound volumes and, the latest, consisting of numbers 61 to 96, is now avail-

able at 4 gns, post and packing included. This is a magnificent book and would make a fine gift either for someone else or for yourself! Nothing is lost in the binding as the covers remain intact, and an index and introduction are added. A top quality cover with gold-blocked title and transparent dust cover gives a look of distinction and this impressive publication is definitely worth having if you've missed out on any earlier issues or must have the complete Profile set.

C.O.E.

BATTLEFIELD SETS

MERBERLEN Ltd have announced several more battlefield accessory sets in their Bellona range and the samples we have received are numbered BB4-BB8. Set 4 is a German light artillery position, complete with bays for ammunition, a shell crater, a foxhole, and a sandbagged foxhole. Set 5 is a German World War 2 revetted machine gun trench, an emplacement for small calibre guns, and an anti-tank position. Set 7 has a slit trench, an anti-tank position, small gun emplacement, a foxhole, a sandbagged foxhole, a small emplacement, and a stack of stores and ammunition boxes. Finally set 8 consists of a large sandbagged gun emplacement, a fallen tree, and a small emplacement. All the items are moulded on a common base from which they can be cut with scissors or a craft knife. They are made in rigid plastic and can be painted with ordinary plastic enamels. Price per set is 3s, postage extra.

Bellona have also published a new edition in their series of 1:76 scale tank drawings. Following the recently revised format, these are in booklet form complete with pictures of the prototypes on the inside covers. The rear cover deals with Japanese infantry weapons. Subjects of the drawings are the SU85, PzKw III, Gorilla, and Sherman Firefly. Price is 4s, including postage.

C.O.E.

USEFUL PHOTOGRAPHS

MANY modellers collect photographs of their favourite model subjects as a matter of course and almost every serious kit builder or converter depends on pictures as a source of reference while constructing models.

One of the biggest firms in the country supplying photographs for modellers and collectors is Real Photographs Co Ltd, Victoria House, Southport, Lancs, whose extensive catalogues list many thousands of negatives covering railways, ships, aircraft and buses. This company has been established for many years and their 9,000 aircraft photographs cover the complete history of aviation in this century. Pictures are available of everything from pre-1916 veterans to the latest jet aircraft. They have more than 20,000 railway photos, including those from the famous Whitworth and H. Gordon Tidey collections. All the pictures are supplied to post-card size so that they can be kept in standard albums or filed easily. Price is 13s 6d per dozen, post free.

AIRFIX magazine

For the benefit of customers, Real Photographs provide a booklet on request listing all the different series that are available from them. The booklet, *Collecting RP Photographs*, also contains illustrations of sample pictures and a useful introduction to picture collection. It is available from the address given above.

Military modellers are not catered for by RP, but we have received a catalogue and samples from Warpics, 11 Lloyd Road, Birmingham 20, who list hundreds of tank and military vehicle pictures covering equipment of World War 2 and earlier, as well as post-war vehicles. Some weapons are also included. These are also post-card size and come at reduced prices for bulk orders. The catalogue is free and is sent on receipt of a 4d stamp. C.O.E.

1:72 SCALE KITS FROM HELLER

THE first of a new series of 1:72 scale models has recently been released by the French Heller company. The new kits are all of French aircraft used by the L'Armée de l'air immediately prior to the armistice in 1940 and include a Bloch 152, a Amiot 143 and a Curtiss Hawk 75-A3. Each model is well made and the rivet detail and general finish are excellent.

We made up the Curtiss Hawk 75 first as this will probably be the most popular with modellers due to the fact that this American aircraft was used in several air forces including the RAF. No longer will it be necessary to carve down a Kittyhawk to make this aircraft and with slight modification it can be turned into quite a number of interesting and varied marks of the basic type. There are 44 parts in the kit which is moulded in mid-grey plastic. The next to be completed was the Bloch 152. This has only 34 parts but makes up equally as well. In all cases there was little flash on the models and all parts fitted very well.

The largest of the models is the twin motor Amiot 143—surely one of the ugliest aircraft ever flown—and although rather outdated at the beginning of the war, used to some effect by the French for bombing operations before the Battle of France really got under way. This model also assembles well. Care will have to be taken by the maker to avoid painting the glazed areas under the fuselage but this should present few difficulties to those skilled in the use of a brush. The only criticism that could be levelled at the kits could be the standard of the transfers. All were rather thin, though they adhered fairly well.

Each aircraft model is based on an actual aircraft in squadron. The Curtiss Hawk 75 was flown by Lt Marin la Meslée of the 1/5 Groupe de Chasse on which he scored 16 victories in six weeks. The Bloch 152 belongs to the 1st Escadre de Chasse, 3rd Groupe, 1st Escadrille. The Amiot 143 represents an aircraft of the 3rd Escadrille, (2nd Groupe) 22nd Escadre de Bombardement.

The models cost 7s 11d for the fighters and 19s 11d for the Amiot 143. They can be obtained from BMW Models of Wimbledon who supplied our samples. A.W.H.

CARS, CARS, CARS!

SINCE we last reviewed the new car models on the miniature market, all the established manufacturers have released new items. Starting with Dinky Toys, we have received samples of a VW 1200 'Beetle', Volvo 1800, Triumph 1300, Chevrolet Impala, and Buick Riviera, the last two being made in Hong Kong originally for the US market but now for sale in Britain as well. All the models have the usual Dinky features with opening boots, bonnets,

and doors, where appropriate. All except the Triumph have plated bumpers and trim, and all have detailed dummy engines. Like all Dinkys these days, they are to a constant 1:42 scale, and have spring suspension. Prices of these models are as follows: VW—8s 11d, Volvo—9s 11d, Triumph—5s 11d, Chevy and Buick—7s 11d each. Collectors should not be without the Triumph 1300, as it is the first model released of this successful small car.

From Corgi comes a replica of the controversially styled Rambler Marlin, an excursion into fastback styling by American Motors following the current vogue for a sporting look. This is a fine model but we would have liked to see it made to 1:43 scale to give an idea of its bulk relative to other Corgi models. With opening doors and other features it is priced at 6s 9d. Corgi have also produced a new version of their Superior Ambulance, with an automatic flashing rooflight and four other lights working from a common bulb. Once it has warmed up, the light flashes automatically whether the model is moving or not. In a darkened corner, and even in daylight, the effect is splendid. This model is excellent value at 8s 9d. The tractor manufacturers have recently introduced new stylings, and Corgi have released a replica of the new Massey-Ferguson 165 in their agricultural range, complete with towing hook and M-F colours and transfers. Price is 5s 9d.

From Lesney we have received news of four new Matchbox models, three of them in the 2s range. These are an Opel Diplomat (scale 71:1), the German prestige car, a Leyland eight-wheel flat truck with pipes (scale 92:1), and an Alvis Stalwart six-wheel amphibious load carrier in BP Exploration colours. This is scaled at 96:1 and has a tilt and spring suspension. It should interest military modellers. Finally in the 'King Size' range, there is a fine model of a Ford D700 series prime mover with Dyson low-loader, semi-trailer and a Case caterpillar-tracked dozer. An ingenious device on the prime mover allows automatic uncoupling and the whole outfit is well-detailed. Finished in the colours of Laing, the civic contractors, the models are scaled at 54:1 and cost 13s 11d. C.O.E.

HANDY TOOL

A USEFUL new tool for home workshop use has been announced by Ronson Products Ltd. Known as the Ronson Varafame Blowtorch, it consists of a torch attachment which clips to a Ronson Butane fuel container. This becomes the handle when the blowtorch is in use. Once ignited, temperatures of up to 2000 degrees Fahrenheit can be obtained by adjusting the flame size. The torch on its own costs 35s. Gas refills cost 8s each.

A complete blowtorch kit is also available containing extra attachments giving a precision soldering tip, an extra large flame, and a fan-shape flame. The soldering tip is fine enough for delicate modelling work, and the tool in general has numerous uses. The kit comes in a neat carrying box, including a gas refill, for the very reasonable price of 79s 6d. C.O.E.

Harleyford Publications Ltd, Letchworth, Herts, have just issued a beautifully produced brochure describing, and illustrating extracts from, their large range of aviation books. Harleyford books are notable for their lavish treatment of aviation subjects, and this brochure tells about each publication. An excellent 'plus' feature is the inclusion of several 1:72 scale drawings reproduced from some of the books in the range. It is free and well worth sending for.

Letters to the Editor

Letters to the Editor can only be answered in the magazine. Readers whose letters are published each receive a free Airfix plastic construction kit of their choice. We are always pleased to receive your comments and pictures, which will be considered for publication. Submitted material and pictures can only be returned if accompanied by a stamped addressed envelope, and the Editor cannot accept responsibility for safe keeping of any such contributions, neither does he necessarily agree with comments expressed by correspondents in the letters column.

Australian cavalry

MAY I offer belated congratulations on your excellent World War 1 infantry figures? I confess to having bought them to provide 'period' ground crew for my aircraft models, but the temptation to try a conversion was too much!

While browsing through an old book on the 1914-1918 War, I came across a photograph of troopers of the Australian Light Horse in Egypt. The clean-shaven Confederate outrider from the Civil War Artillery set provides a good basis for a conversion. Remove the slouch hat, and give him a haircut, and replace the hat with the flap over the left ear. Using a knife, trim the trouser bottoms to a tight fit round the ankle.

The tunic should be about 2 mm longer—this can be done by trimming off the bottom edge of the existing tunic and making a shallow groove at the required place, then whittling gently upwards until a new edge is achieved. Weapons can be provided by a direct amputation of a hand grasping a rifle from the British infantry set.

The uniform was khaki serge tunic, light khaki trousers, greyish-khaki hat and brown leather top boots and belt. These troopers carried their ammunition in pouches slung on cross belts of brown leather, which are easily simulated by painting. Horses were to be seen both with and without horse cloths; when used these were of a dark brown colour.

I am looking forward to many more excellent models from Airfix—might we have a Blenheim or a Whitley, perhaps?

Robert C. Gibson, Newton, Notts.

Non-flying reader

THERE are probably more people who like aircraft than who like ships for example. But surely the majority is not great enough to warrant over one-third of Airfix releases being aircraft? By comparison people like me who like cars, merchant ships, liners and historical ships are very badly served. I will concede that this situation has been alleviated by the Elite series of cars. But the last 1:32 car appeared one year ago. The last veteran car appeared before I started taking AIRFIX magazine—3½ years ago! The last veteran commercial vehicle was merely a rehash of a previous one which any self-respecting converter could have done for himself with the exception of the soldiers enclosed. The last liner came out 18 months ago, the one before appeared a year before that. Historical ships are produced at regular intervals of a year or slightly over. I don't mind, however, as they are the best models Airfix make and they are worth

waiting for. I expect the next one to come out about Christmas-time and my mouth is already watering in anticipation!

Mr. M. H. Poole recently echoed the same sentiments with regard to veteran cars and you replied: 'We're doing our best, Mr. Poole . . .'

Sir, you are *not* doing your best. If you can produce almost one aircraft per month, you can produce two cars per month, if only by virtue of the variety of prototypes available. Certain American companies produce nothing but cars. However they are too expensive for a large collection. Can't Airfix strike the happy medium between planes, ships, armies, cars and railways and thus please all of the people all of the time?

C. D. Allanson, Bottisham, Cambs.

The fact remains that aircraft and military enthusiasts do outnumber the rest and the frequency with which different types of Airfix kits are released does just about reflect the amount of interest in various subjects. Due to very large demand for aircraft kits, manufacturers have the resources for producing kits in other categories. We think that minority interests do get a very fair deal from Airfix. For instance, a new car kit is released this month. Our comments to Mr. Poole referred to AIRFIX magazine—we do include a high proportion of transport articles.—EDITOR.

Sydney museum

RECENTLY I visited the Museum of Applied Art and Sciences in Sydney and was pleasantly surprised to find five Airfix model aircraft on display, some of them recent releases and of suitable quality to be included in an exhibit alongside special hand-made models of aircraft.

I would like to back up reader R. A. Ponton in the request for a German half-track and 88 mm AA gun. This would provide the Airfix German infantry with some much needed transport and would surely open many new fields for conversions by your military expert C. O. Ellis.

Graham Brooks, Sydney, Australia.

Modern AFVs

I FEEL it is time Airfix branched out on modern Fighting Vehicles as well as 1939-45 vehicles. I am sure the Chieftain tank, Ferret scout car, Champ, Bedford vehicles (ambulance, recovery) and other of the army's tracked vehicles could come under the title of 'Famous Fighting Vehicles' even though many of them have never been through a war. To accompany these, some modern troops in your scale figures series equipped with SLR rifles, General Purposes Machine Guns and other modern weapons.

A second suggestion is a series of kits of guns, which could include the Bren gun, the Vickers, machine gun, the .303 rifle and many others. These need not be very large, but I am sure they would be very interesting to construct and would make an excellent display.

I would very much like to hear comments on both these suggestions from other readers.

M. O. Williams, Selsdon, Surrey.

Lesney make a Ferret and some other items you mention were made by Britains in OO scale about ten years ago.—EDITOR.

Fabric effect

RECENTLY I bought an Airfix F-5 Freedom Fighter kit and made it up to represent a camouflaged Viet Nam aircraft. While painting the tone camouflage, I was using Humbrol tan which I had previously thinned down for use in a spray gun. After applying the paint I found to my dismay the paint had eaten into the plastic and shrivelled the surface. The resultant surface looked like fabric and, although not applicable to an F-5, it gives a very realistic finish when applied to World War 1 aircraft and fabric control areas.

The mixture used was equal parts of Humbrol enamel and Keil Kraft dope thinners. When used with matt paint it causes a very slight sheen on the surface which is most realistic.

S. J. B. White, Basildon, Essex.

We would advise anyone trying this to experiment with the mixture on scrap plastic first. Any cellulose mixture (i.e. dope) attacks plastic and unwise application could result in a melted model.—EDITOR.

Prussian uniforms

IN reply to Mr D. E. Ball's letter in the August issue, I have the details of Prussian uniforms for the Franco-Prussian War of 1870. The tunic and trousers are dark blue, Humbrol 15, and the helmet is lighter blue, Humbrol 13. Both of these colours are gloss and need matting when applied to figures.

Webbing, boots, and rifle slings are tan, obtained by mixing matt earth and brown in the ratio 2:1. The pack is black and the greatcoat on top of the pack on the advancing soldier is red. There is red edging round the tunic and trousers. The cloth cap worn by the marching soldiers is black round the base, then red, and then black on top. Buttons on the tunic are silver and the number on the helmet is black. Finally, the scabbard is black with a silver tip. The result, when a figure is painted, is most impressive.

Roger Emery, Worcester.

AIRFIX magazine

Rhodesian Hunter

AFTER seeing the three pictures from Rhodesia in your May issue some of your readers might like to produce the Airfix Hunter in Royal Rhodesia Air Force colours. The kit itself is an F6, although our aircraft are FGAs. The colour scheme is as follows: upper surfaces—dark green on dark earth; lower surfaces—duck egg blue.

If Humbrol matt shades are used, I suggest a coat of gloss varnish, as the colours are actually semi-matt. The camouflage pattern and the line where the upper and lower colours meet, are approximately as shown on the plans for the Swiss Hunter.

The RRAF insignia is an assagai (short spear) with a silver blade and gold shaft outlined in black on an RAF roundel, with a narrow white band and no yellow outline. These can be taken from the Hurricane and Wildcat kits. The large ones on the top, the small ones on the undersurfaces and on the fuselage. The fin flash is the standard RAF type. The figures RRAF 127 appear aft of the fuselage insignia, in $\frac{1}{8}$ inch black lettering. The same lettering, this time in $\frac{1}{4}$ inch letters appears underneath the wings, inboard of the insignia, the RRAF on the port wing, the 127 on the starboard.

The model is finished with the addition of rockets and droptanks (painted green overall).

P. V. Horsburgh, Ruwa, Rhodesia.

It floated

I WAS interested in the letter on HMS Endeavour. I found a way to make the model float. Cement the hull together, omit the main hatch and half fill with gravel. This balances it. It should float. Then carry on with assembly. I succeeded with my model last year.

James Waters (7), Bingley, Yorks.

Offer to help

WITH respect to the enquiries sometimes made for uniform details in your fine magazine—for example, the letter from Mr Ball in the August issue—I would be pleased to give details of most army uniforms of the 19th Century, a period in which I specialise. All questions sent to me will be answered, but I would appreciate the inclusion of a stamped, self-addressed envelope for the reply.

T. H. Mashen, 6 Duncan Gardens, Upper Weston, Bath, Somerset.

Interested readers should contact Mr Mashen direct.—EDITOR.

Wave pattern

IN answer to reader Campbell's letter I have a method which works very well. In essence, 'wave mirror' finish (usually grey 'squiggles' on green background) was a single line sprayed on freehand, therefore the method in model form is much the same.

The aircraft should be painted in sections, eg. tail unit, wing and fuselage. First the basic colour is applied and while this is still wet the 'squiggles' are applied using a fine brush such as the eye liner suggested by reader Allen, the

paint is put on as far as possible in a smooth continuous line. Then dab gently with a soft cloth, thus merging the two colours to give a 'sprayed on' effect. The advantage of this method is that if a mistake is made, it is easy to wipe off the still wet paint. You must of course make sure the paint used as the base colour is not too wet, or the other colour will run into it.

M. Verier, 1859 (Sandwich) Sqn, ATC.

New reader

I HAD not been a reader of AIRFIX magazine until a couple of months ago, when a friend passed some of his back numbers over to me for just 'a wee' borrow.

Fascinated with readers' letters and the useful tips therein, I was amused by the plea of an Aussie back in August '64, pleading for a B-29 in 1:144 scale because he thought it impossible in 1:72 scale. Also, I thought my models were the 'bee's knees' until I saw Alan Hall's conversions—they are superb.

My main reason for writing is to request details of a Manchester conversion by M. J. F. Bowyer which he mentioned in reply to a correspondent in the July, 1964, issue.

Andrew Ferguson, Liverpool 17.

A special article on the Manchester conversion appeared in our April, 1963, issue which is now out of print and no longer available. Someone else might possibly be able to lend you this issue.—EDITOR.

Jeeps at Normandy

AFTER reading the letters in the last two issues of AIRFIX magazine from readers describing SAS Jeep conversions, I should like to suggest one other interesting modification which has not already been mentioned. In the fighting at Normandy, after the landings, Jeeps were fitted with wire-cutting devices for dealing with taut wires erected by the enemy across roads with the intention of decapitating drivers. On the model these can be made from one inch length of thinned plastic sprue with notches placed at regular intervals slanted downwards from right to left. This was attached to the radiator grille from right to left and was supported from the bonnet.

P. H. Sacha, Esher, Surrey.

'14-'18

THANK you for the article on British World War I uniforms in the August issue. I have another suggestion; use the stretcher bearer as a rifleman by inserting a rifle through his right hand. The stretcher can be carried by the surrendering Germans as though they were lifting it over a wall or obstacle. These figures can also carry a crate from the Airfix station accessory set to represent stores.

David Greenaway, Currie, Midlothian.

You're joking

RECENTLY I purchased some Elliston's joke soot, upon close inspection I found it to resemble coal or coke of about OO scale. It looks ideal in coal wagons or bunkers.

Robert Timms, Cropston, Leics.

Last word

HAVING read with interest the readers' letters re the Ju 90 and P. D. Roberts' letter on the Ju 89 in the May issue, the following write-up from *Jane's All the World's Aircraft*, 1938 may prove to be of interest, and I quote: 'The Ju 89 is a military version of the Ju 90 and is in production for the German Air Force. It is fitted with four Junkers Jumo 210 12 cylinder, inverted vee, liquid cooled engines. Rumour credits the Ju 89 with a maximum speed of approximately 360 kmh (225 mph) and a cruising speed of 320 kmh (200 mph).

There is an in flight photograph of a Ju 90, registration D-AALU, and named Der Gross Dessauer. Power plant is four Junkers Jumo 205 heavy oil engines. The Ju 90 is stated to be a four engined, passenger, commercial monoplane. Power plants could be Wright Cyclone CR-1820-G2 nine cylinder radial air-cooled engines or any other air- or liquid-cooled engines giving a total of 3,300 to 4,000 hp output. Three bladed controllable pitch propellers. Span was 35.02m, length 26.3m.

With the interest so far shown I am sure that many modelers would welcome a kit of this aircraft, and also a kit of the Ju 86. While on the subject of kits, I would like to endorse the Italian letter writer's plea for more Italian representation, especially the SM79 and the warships. Regarding warships, the opposing powers at sea during '39-'45 were not limited to the Royal Navy and the Kriegsmarine and models of the American, French, Italian and Japanese navies are conspicuous by their absence from the Airfix range, and I would stress, Airfix.

G. J. Griffiths, Birmingham.

M. J. F. Bowyer writes: *The recent correspondence about the supposed Ju 89 and 90 has caused considerable interest amongst our readers. The truth on these sightings may never be known—unless amongst our German readers some confirmation that the Ju 89/90 did operate. What can be confirmed is that during the first two weeks of September, 1940, at least, there were unusual large aircraft observed from the ground and by pilots. In every case these seem to have been closely escorted by considerable numbers of fighters. It was considered possible that, like the RAF, the Luftwaffe was scraping the barrel. There were reports at the time of Ju 86s in use on day raids and some observers even recorded Ju 52s, but again no proof has been ever forthcoming—so far.*

Only two Ju 89s were completed, but the Ju 90 was used in small numbers by the Luftwaffe. Several 'large four-motor bombers' were reported over London on September 15, 1940, but no positive identification seems to have been made. None was brought down in Britain.

There seems little doubt, too, the Fw 200s were used over Britain occasionally. It seems conceivable that these were from K.G. 40, a unit which also flew Do 217s and Ju 88s over Britain. I recorded a Fw 200 as held in the searchlights over Cambridge on August 6, 1942 during a concentrated fire raid, and my faith in what I think I saw is as unshakable as those readers who saw the Ju 90 (s)!

MILITARY MODELLING—continued

Start with the body, as this simply involves tracing out the side pieces and a corresponding full-depth back and cementing them in position on the body floor. The full-width back forms the basis of an ammunition box, made up from plastic card in the conventional way. The front of the body forms a lower ammunition box and is also a seat for the gun crew. Ensure that all these parts are square before they set. All that remains to be added is a sheet on the right side only to protect the fuel tank. Finally drill a hole for the gun mounting on the centre-line and fill in the edges of the body with plastic putty.

The 6 pdr gun comes from the Airfix Bren Carrier kit and is made up according to the instructions therein. However, the trails are chopped off—leaving just the locating eyes in position like washers—and the wheels are omitted from the axle. One of the wheels, however, should be cemented immediately beneath the carriage to form a

mounting, while a pin or piece of plastic rod is cemented into the lower hub to form a pivot.

The mounting itself consists of a floor—through which the pivot is pushed—the gun-shield, and two sides. I found it desirable to reinforce the inner edges of the shield by strips of plastic card. Finally, I cemented the ammunition box to the inside of the gun-shield and stuck a scrap of plastic on the floor to represent a seat for the gunlayer.

Now all that remains is the cab, and I hope the pictures will show the mode of construction. It is made up face by face, commencing with the sides and top. New mudguards of squared-off type are required and I found it advisable to cement these in place before beginning the cab. Check all the angles as you go along and note the driver's visors which were usually kept open. To fit the nose-plate, it is necessary to remove the front tow-bar from the chassis.

There still remains a tool-box on the back and small details to be fitted, all of which will be dealt with in the next issue when other Matador conversions will also be discussed.

PROFILE—continued

plugged by the Phantom, and it was decided to order the F-4M, similar in many respects to the RN Phantom. About 210 F-4K/Ms are required, although the contract has yet to be finally concluded. About 150 are F-4Ms for the RAF, but currently the contract rests upon two YF-4Ks, two F-4Ks and two YF-4Ms for development, and 20 F-4Ms and 24 F-4Ks. The all-important engine development programme will be undertaken by the two YF-4Ks, the other pairs being left to work out weapons and other programmes. No 'RF' versions are on order, for a special PR and radar reconnaissance pod is being produced by EMI.

Apart from its speed, range and ceiling the F-4 is a remarkable aeroplane on account of its exceptional load carrying capacity. McDonnell can be justly proud and doubtless satisfied that the 1943 gamble has paid such handsome dividends.

M. J. F. Bowyer



Above, top to bottom: Four RF-4Cs of 10 TRW in May, 1966. 41027 makes use of the arrestor gear at Alconbury. 41027 endures the winter of 1965-66, at Alconbury.

NEWS FROM IPMS

WITH one eye on the approaching long evenings at the end of our so-called Summer, the Society's Kettering Branch is organising a plastic modelling competition to be held on Sunday, October 2. The competition, which will cover models of any subject, aircraft, vehicle, ship or whatever, will be held in two parts; one part to be judged by popular vote and the other part by a panel of experts. The winners will receive worthwhile prizes and all are welcome. It begins at 2.00 pm at the Keystone Boys Club, 97 Rockingham Road, Kettering, Northants, admission 3s including refreshments.

A combined event organised by our Hull and Newcastle Branches is expected later in the year, and details of this will be given in due course. The London Branch continues to hold its well-attended regular monthly meetings at St Mark's Church Hall, Balderton Street, London W1 (opposite Selfridges) on the last Friday evening of every month. Visitors are always welcome to these meetings, where there is always an excellent display of members' models and somebody willing to talk about how he achieved that little extra finishing touch. The date of these meetings is firmly settled as the last Friday, so if you cannot make the August 26 meeting there is always September 30, October 28, and so on.

I would like to take this opportunity to remind overseas modellers that there are branches of IPMS throughout the world each with a director to whom membership inquiries should be addressed. These are as follows—Australia: T. Bennett, 15 Lee Ann Street, Blackburn, Melbourne, Australia (also covers New Zealand); Canada: Alan Black, c/o IATA, 1060 University Street, Montreal, Canada; France: F. Galindo, 11 rue des freres Lumiere, Billere, Basses-Pyrenees, France; West Germany: W. Lohmann, D 4800, Bielefeld-Schildesche, Am Herrengarten 8, Germany; Denmark, Finland, Norway and Sweden: Lief Boel Hansen, Rosenvang Lunde, Jylland, Denmark; Argentina: N. H. Danby, Juncal 372, Martinez FCNGBM, Prov de Buenos Aires, Argentina; USA: J. H. Sage, 3813 Durango Drive, Dallas, Texas 75220, USA. All other membership inquiries should be addressed to the Hon Secretary, 23 Chadville Gardens, Chadwell Heath, Romford, Essex.—

R.R.W.

AIRFIX magazine

We have many letters from readers requesting back copies of **AIRFIX MAGAZINE** containing conversion articles. Back copies of many issues are still available for the benefit of readers who may have missed or mislaid earlier editions. For example, here are some of the practical articles which have appeared in recent issues.

1963: January—Defiant target tug conversion. **July**—Heinkel III Z glider tug conversion.

1964: September—Bren gun carriers. **November**—Conversions with the Airfix Centurion. **1965: June**—Building a Hector from the Airfix Hawker Hart. **July**—Motorising the Airfix City of Truro. **September**—Jeeps. **October**—Modifying the Airfix Gladiator. **November**—Ajax cruiser and Lightning conversions. **1966: March**—Firefly Profile. **June**—Four-stacker destroyers. **July**—Phantom RF-4C.

Would readers please note that the following is a revised list of issues that are out of print: all 1960 editions; January, February, March, April, May, June, July, August, 1961; January, February, October and November, 1962; February, March, April, August, September, October and November, 1963; January, February, March, April, May, June, July, August, September, October and December, 1964; January, February, March, April, May, June, July, August, September and December, 1965; January, February, April and May, 1966.

Back copies cost 1s 6d each (including postage) for all issues up to and including August, 1963. From September, 1963, onwards, the cost is 2s per issue, post paid. Please address all requests for back copies, together with your remittance, to our circulation department at **SURRIDGE, DAWSON (PRODUCTIONS) LTD, 136/142 NEW KENT ROAD, LONDON SE1.**

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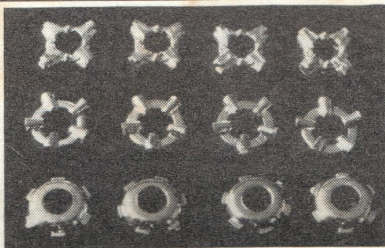
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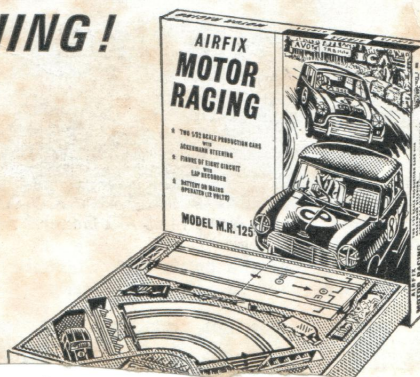


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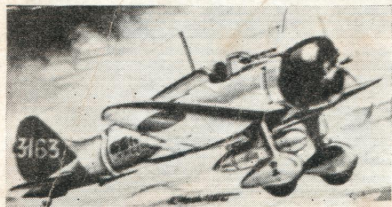
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